

Natural Gas Discovery and Development Impacts on Rio Vista and Its  
Community

By

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## **Dedication**

To you my dear father Papa Kossi Nyakpo and stepmother Dada Atsufe, I dedicate this work. When both your deaths happened within the space of ten days in April 1971, I was totally crippled, as was this youthful family that you then began to build together.

Once again, this paralyzed family's fate would only worsen some years later by the sudden death of Sister Vida Videli, who in 1990 was the only tree under whose shade the family sought shelter and comfort.

As many seem to believe, misfortune appeared to have been bestowed upon the family. Yes, they might be right because of the unfortunate events that followed were unacceptable. The situation within the Gbedema-Nyakpo family deepened two years later with the unconceivable abrupt death of the youngest of all, my little brother, Daniel Devoto.

And as if mother death was not satisfied and had no place to go, she once again shocked the family this past September, by taking away big brother Hilton Hottor. Needless to say you are all gone, but your spirits are here with us and I know that you are invisibly fighting for this family to sustain.

This is why I dedicate this dissertation work to you all, in particular, Sister Vida, little brother Daniel and big brother Hottor. Whatever be the case, it is my belief that your deaths are not just mishaps but rather the plan and will of the Almighty Father, for He is the only one who knows the reason why all these bad events have happened.

As an African and a believer, I have faith that your spirits, despite your abrupt departures from this world of ours, are always around by our sides, and remain our guardian angels, guiding and protecting the family. May your souls rest in peace!

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## Chapter 1

### Introduction: Energy resource development and community development

*"I think a lot of old-timers around here don't want anything to change. They got their ranches, natural gas wells and plenty of dough".<sup>1</sup>*

The statement above from Mr. Tremmeroli, once owner of Hap's Bait Shop, Rio Vista Care, illustrates the concerns of many residents in Rio Vista today. One of the most natural resource rich counties, Rio Vista is trying to resolve the tensions between growth and preservation of historic small town values in the context of global natural resource corporations. These tensions hidden behind complaints about gas development issues in the community remain a major point of concern for residents. The tension behind gas development issues is a factor that has to be debated and revisited for a number of community development actions to take place in the city. In this direction, one past President of the city's Chamber of Commerce, Perry Wilson, stated in his interview with Dale Champion of San Francisco Chronicle in 1976 that "Rio Vista needs more people to justify the kinds of services that [we] are presently missing." Whether right or not, the question as it seems, is not about getting more people, it is not about old-timers and their ranches. It is rather about how to overcome the tensions raised by gas activities in order to maintain the small town network and atmosphere important to the people. It is about how to attend to the needs of the local residents while natural gas energy resource development activities are carried on.

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<sup>1</sup> San Francisco Chronicle of March 8, 1976, p. 4, article entitled "Big Boom and the Little Town"

With the launch of the gas activities in the community, growth has slowly occurred provoking an increase in population and demands for housing and basic needs. While certain social services and amenities remained practically non-existent, and a number of old infrastructures have undergone no improvement, new resident arrival in the neighborhood has initiated expansion of city lands for economic development. Thus shopping and health care centers, cinema venues, social centers to serve the residents have become necessary. The fire department, for example, with its few volunteer workers is overwhelmed with frequent requests for service, especially in the new residential housing community of Trilogy. These requests, in addition to many other local social needs, are necessitating the establishment of new socio-economic avenues to accommodate and satisfy resident concerns. Although initiatives and attempts are being made, they very often collide with issues of gas energy development activity difficulties (Economic Development Meeting at the City Hall, August 27, 2004, at Rio Vista Fire Service Station, September 1, 2004, The Point Restaurant, September 8 & 22, and October 13, 2004, Chamber of Commerce Board Meeting at the Chamber Offices, September 2, 2004, and Rio Vista Foundation Meeting at City Hall, September 13, 2004).

The gas resource operations, instead of creating avenues for improvement, seem to rather slow down efforts for bringing in other economic opportunities that in some ways may help solve problems. Gas development appears to have rendered difficult the entrance of other business opportunities into the city. It seems to have generated conflicts of interest between citizens and

companies, between land ownerships and surface rights, (mineral and surface rights), between old and new residents. As a matter of fact, the dichotomy being created definitely calls for a serious attention to the problems and meditation on “oil and gas industries’ promotion that their activities positively contribute towards capitalization and development on a local level”<sup>2</sup>.

This thesis therefore proposes to investigate those issues by looking at the ways natural gas resource development in Rio Vista has both helped develop and limited development in and of the community. The project investigates gas resource discovery, drilling operations effects and impacts on Rio Vista and the population’s social relationships. It attempts to take a fresh look at the tenets of community development that the avenue of gas operations has initiated in the community. The project attempts to assess the balance between how the discovery of gas has promoted and improved socio-economic life in the city, and how it has helped the citizens to promote the city. It also examines the costs and challenges that the gas activities have created before projects of residential housing development. This work intends to pay attention to employment opportunities, population growth and the need for establishment of new business centers in the city. The project is designed to evaluate and analyze the cultural and social trends that Rio Vista has taken since the start of gas activities. It also addresses the conflicts between residents and the gas drilling companies.

The work is divided into seven chapters. The first chapter comprises the introduction, general view on the gas drilling issues in the community, findings and assumptions. It also discusses mineral and surface rights ownership and

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<sup>2</sup> Edward J. Blakely in “Theoretical Approaches for a Global Community”, p. 322

makes mention of slow growth and opportunities related to gas resource operations. The second chapter deals with the literature review. The methods used for the research follow in the next chapter. Chapter four focuses on the discovery of natural gas. This chapter has two parts. Part one deals with the early years of Rio Vista i.e. before 1936, the historical background of the city, the community before the advent of gas, the birth or coming into being of the city and the early undertakings, miseries, economic and social activities of the people. The important role of its early newspaper industry and financial institutions is discussed in this section. Part two of this chapter focuses on the discovery of gas and the social changes that gas development has brought into the life of the community. The section describes and explores the early research experiences that led to the natural gas discovery in the Rio Vista community. The struggle between *mineral* and *surface rights* is an important point of debate in the section. Also mentioned are the efforts made by the community to have a community lease signed with the drilling companies. This second part also provides information on the boom of gas drilling and production during WWII.

Chapter five discusses gas operations. The first part of this chapter looks at the current issues and conflicts. It examines the activities of the drilling companies in the neighborhood, and analyzes the production and points out factors that have helped augment production. Emphasis in this section, is given to Calpine, the current company that presently holds the majority of the land leases in the city. The impacts of gas drilling on the community are debated in

part two of this chapter. The benefits and difficulties are discussed in the subsections.

Chapter six discusses the relationship between the community and Calpine, between Calpine and Trilogy residents. Attempts are made to describe gas revenues, in other words royalties, although efforts made to obtain data in this area remained unsatisfactory. A subsection of this chapter provides analyses on the relationship between the gas industries and homeowners and land development agencies. Chapter seven concludes the work with our points of view and suggestions to reducing the tensions in the city.

### **1. General overview of energy resource developments**

Energy [or natural] resource exploitation developments deeply affect local communities (Rose, 1981). They impact the socio-economic and political life of the people, create social changes and conflicts. Resource developments, very often, have had effects on the living standard of the individual. They sometimes stimulate the economy but give less chance to the community to develop. They most often generate adversity among the people, affect the political stability, social relationships and *community development*<sup>3</sup> of any given environment in which they happen to take place. And in fact, many regions rich in such resources, like oil and gas, have encountered difficulties and seen great social changes and developments. But many communities, wedded in digging and drilling their way to wealth, have failed to develop their non-resource sectors

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<sup>3</sup> See definitions in the literature review

such as agriculture, manufacturing and services, which normally sustain the economy and socially promote the primary needs and living conditions.

A number of individuals, groups and companies that are involved in these energy resource activities believe that their work is beneficial to the communities within which they operate. In most of the cases, however, studies have proved that it is only the industries and their owners that make spectacular profits with a small percentage of the local population benefiting from their operations.

Like that of oil, gas production has been a vital part of several localities' economy (Natural Gas Bulletin, 2004). Natural gas drilling in the Rio Vista Gas Field has, in many ways, helped fund the city. It has definitely remained an essential part and foundation of the city's economy as well as that of the state of California<sup>4</sup>. The area, without any doubt, has been a major contributor to California gas production ever since the discovery of its gas fields<sup>5</sup>. The fields have remained the second largest natural gas operation within the state, producing more than 3.3 million cubic feet to date<sup>6</sup>.

Unfortunately, the gas industry that brought significant development to the city also appears to have hindered its progress towards community improvement. Most residents today concede that Rio Vista's economy cannot only live on the gas income but rather needs new incentives and impetus for it to be sustained. Its progress requires an injection of new economic opportunities. The community also lacks a number of social services and must be enhanced with such institutions in order to satisfy the needs of the residents. That way people could

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<sup>4</sup> Natural Gas Operation Bulletin, 2004

<sup>5</sup> Rio Vista Natural Gas Operations, edited by Calpine, 8/20/2004, p. 1

<sup>6</sup> Rio Vista Natural Gas Operations, Calpine, 8/20/2004, p.2

create measures to meet their social and economic demands, maintain their standard of living, and make use of the social relationships and ties among the residents to enjoy the benefits of gas production.

These are the issues surrounding the city and its gas energy resource development. In fact, the majority of these problems have remained subject matters of other studies but we think the situation in Rio Vista stands unique as residents are torn between the tensions of achieving growth and preserving historic small town features. Thus we cannot hold our discussion without revisiting already existing literature works on energy resource development impacts on communities. After all, what we intend to accomplish with this investigation is not to criticize anyone, nor state or produce solutions to these ceaseless problems but to rather add our thoughts, ideas and contributions to what we believe could be done to help address these challenges that face these environments and communities.

## **2. Findings and assumptions**

An analysis of the concerns and issues related to the natural gas operations in Rio Vista brings up a number of facts, assumptions and hypotheses that lead to questioning the strength and weaknesses of the present economic and social forces in the community:

- It is noted that majority of the residents believe that the gas development is what sustains the economy and want to see it continue

- Certain groups would like to see some kind of development being implemented in the neighborhood but, at the same time, are opposed to seeing the gas activities go on within residential areas because they are unsafe and therefore must be prohibited
- Others believe that gas drilling activities within residential areas could be done without risks and would like to see them continue
- Another group of residents think that gas production activities contribute to the holding of large tracts of lands that are needed for other economic ventures within the community and retard progress of the community and sustainability of the economy
- Gas operations block residential and commercial housing developments
- A number of royalty beneficiaries currently live outside the neighborhood making gas revenues that should be spent in the city be utilized outside the city
- Individual mineral rights income has decreased while leasers have increased, leading to smaller shares of royalty distribution among a greater number of heir citizens compared to the past
- More retirees are entering the community, putting huge welfare burden and needs and frequent social service demands on the community
- Existence of fewer avenues for creating jobs and keeping the youth in the community

- Very few business centers for residents to spend their money in town (most residents work outside the city and do their shopping there before returning home).

The above facts and hypotheses together with the gas production data gathered from Rio Vista through Fairfield to Sacramento lead to important analyses and evaluations of the situation in Rio Vista. They reveal that the natural gas industries' presence in the locality has generated lot of concerns in the community.

Gas industries gain of mineral rights at the expense of localities most often obstructs local community improvement and generates complaints of all sorts (Blakely,'89). Certainly gas companies stimulate location of other businesses in many areas where they are located but these businesses are never established without causing other social problems. They create environmental problems, as has been the case in many developing and poor countries such as Togo (see section 4 of Chapter 3 below). They most often paralyze local economies and sometimes cause dichotomy between social orders. They create unprecedented misunderstandings between companies and residents, mineral and surface rights holders and eventually work against local peoples' control over their own land and also create barriers to community building initiatives and strategies<sup>7</sup>. When people ignore the issues because of the pressure they receive or the benefits they derive from these activities, a solution to building the community will never be realized, unless all the parties try to work together. Even though people tend to behave as if things are satisfactory with the gas industry

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<sup>7</sup> Edward J. Blakely in "Theoretical Approaches for a Global Community", p. 322

operations in Rio Vista, problems within the community certainly prove them wrong. In fact, the information gathered for this study indicates that when the gas energy drilling activities were initiated, only a few local residents managed to fund drilling operations on their own land. Many of the landowners were not able to invest their own money in the activities because of the high costs of energy resource development operations. The majority of investment capital came from outside the county as remains the trend today. Royalty beneficiaries at the time were mostly local and resided in and around the neighborhood.

But the picture at present is different. A number of Rio Vista gas royalty beneficiaries at this very moment live outside the community, ensuring that the gas dividends received are not being spent in the city for the municipality to benefit from them. This is a hidden problem to the community. Furthermore those who are still located in the city and earn income from these royalties, nowadays receive mere shares of the revenue because the income today is divided among various descendants of the original owners. With the exception of the Emighs, Perry Andersons, McCormicks, and Mayhoods, who still have representatives of their family based in the community, many other beneficiaries have exited the area<sup>8</sup>. Thus while the gas energy resource development is an excellent method to ensure profits for mineral rights holders and multinational corporations, it is a very poor strategy for local community development. Although the consequences may vary, they inevitably affect the local population and the locality's [urban] development.

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<sup>8</sup> Interview with Phil Pezzaglia at the Rio Vista Museum on Sunday

How then can Rio Vista maintain its small town philosophy with these problems surrounding the gas production? The city does have resources and assets that can be utilized for greater economic opportunities but it needs to develop a kind of consensual understanding among residents, and co-operation between the community and the companies. It has to find ways to retain its youth and young adults within the community to maintain community workforce. With almost 70% of the population aged over 40, it is essential for the city to establish social services and welfare centers that can cater to them. It must look for means to maintain residents and create jobs, for without such undertakings, no businessman/woman would accept to invest in any big hospital, shopping center, movie theatre or other enterprise in the city. The absence of these amenities leads the majority of residents to drive out of town to go do their business and shop, thus spending elsewhere the money that should have normally been spent within the city for its benefit.

### **3. Ownership of mineral and surface rights**

Most conflicts involving oil and gas drilling are rooted in the “severance” of land title. In California, as in many western states, property is divided into the **“surface estate”** and the **“mineral estate”** each of which can be owned by different parties. Mineral estate/rights are defined as the right of ownership of the mineral resource that underlies a tract of land (Kansas Geological Survey, 2001). In most cases, these rights have been leased out in varying proportions to federal and state agencies, which in turn lease these rights to industrial

producers. Mineral owners have a prior right to access and develop their mineral. This is where the bulk of misunderstanding and litigation exist. According to a Montana University-Bozeman article entitled “Coal Bed Methane Ownership and Responsibility: A Summary of Surface, Mineral, and Split-Estate Rights”, mineral rights owners have legal authority over surface rights owners, which means whenever the two rights conflict, a mineral property right takes precedence over the overlying surface property right. The balance of rights between mineral and surface owners varies depending on whether state or federal laws apply. Thus if the state or a private individual or a company owns the minerals beneath a landowner’s surface right, then the landowner and the mineral lessee must follow state law (Northern Plains Resource Council, 2001). However, in many cases, surface owners are unaware that another person owns rights to the minerals underneath their property. Even surface owners who are aware of the severance may not realize that the mineral owner has a legal right to enter the property, build roads, drill wells, install flow lines and maintain operations – all without permission from the surface owner or compensation for most damages caused by drilling.<sup>9</sup>

Oil and gas industries’ assertions that oil and gas drilling positively contribute towards capitalization and development on a local level is a myth. The truth, in fact, lies far from this corporate spin<sup>10</sup>. Rio Vista’s natural gas field has created a huge interest in the community itself and many have expressed their desire to pull the maximum profit from it. The field has long been a natural gas hotbed

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<sup>9</sup>[http://oil-gas.state.co.us/Staff\\_Reports/2000/Oct\\_attachments/OGLEgislativePkg.htm](http://oil-gas.state.co.us/Staff_Reports/2000/Oct_attachments/OGLEgislativePkg.htm)

<sup>10</sup> Cite in Edward J. Blakely’s “Theoretical Approaches for a Global Community”, 1989, p. 322

since Amerada Petroleum Company discovered the gas in 1936. With these dry gas fields becoming the largest in California, companies like Amerada-Hess began acquiring *mineral rights* to almost every piece of land the city could build on, making the natural gas fields that had been the city's longtime savior and local capital become its hindrance (Eberling Barry, Daily Republic, 2004).

Local capitalism, indeed, places emphasis on generating wealth within disadvantaged communities by increasing the number of jobs in the area, improving businesses and home ownership, and maintaining or capturing internal community income (Blakely, 2003). While natural resource development is an excellent method to ensure profits for multinational corporations, it is a very poor strategy for local or national development. It may create a few jobs but denies the economy its uplift, especially when the manufacturing part of the resource is not locally located. Wherever these minerals are discovered, their production activities affect and negatively impact the people, environment and many community development undertakings such as the creation of economic growth, the institution of political stability, the development of social welfare and urban development, and in short, the provision of everyday life needs of the people.<sup>11</sup>

Natural gas, as we find it underground, can come associated with a variety of other compounds and gases, as well as oil and water, which must be removed (Natural Gas Organization, 2003).<sup>12</sup> Natural gas today is for many, a necessity. It plays such a large role in our lives and in our economy, that certain aspects of natural gas industry production practices demand regulations from local, private

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<sup>11</sup> Edward J. Blakely in "Theoretical Approaches for a Global Community", p. 322

<sup>12</sup> NaturalGas.org, website, 2003

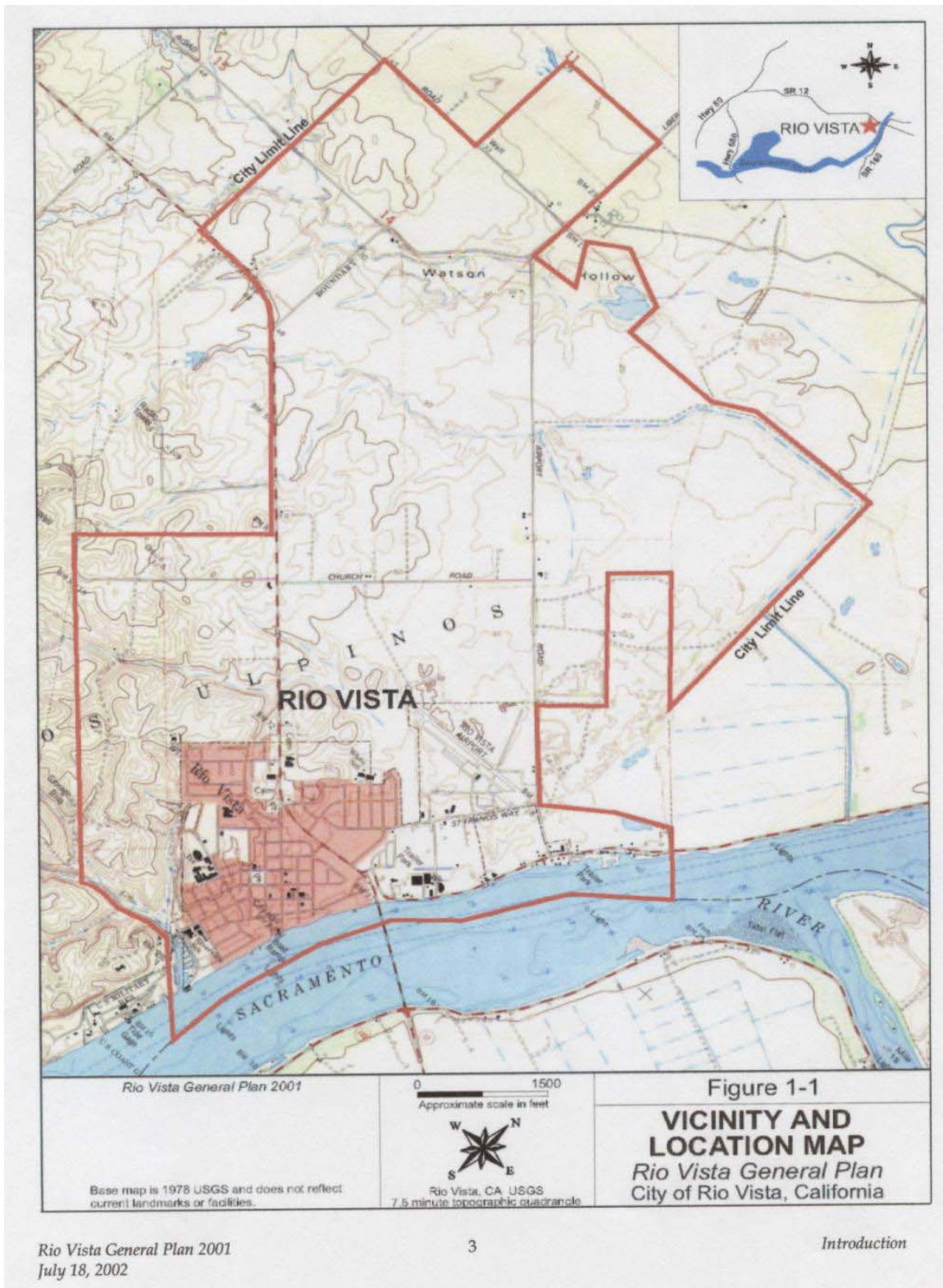


Figure 1.1. Map of Rio Vista with City Limits

Map of Rio Vista showing proposed city limit space marked in red but still not developed mainly because of the gas drilling sites sparsely projected in the area, Rio Vista General Plan, 2001

and government entities. In short, all parties involved in its activities demand regulations.

#### **4. Slow growth**

Nature is kind to Rio Vista. The weather is beautiful and the community has been gifted with impeccable recreational opportunities, a perfect riverside breeze and a lovely small city concept, all features that attract any first time visitors to the community. These features coupled with the fame of the gas developments have made the city an interesting one to live in. But as depicted on the maps on pages 14 (red colored area) and 16 (area 1), courtesy General Plan of Rio Vista, only a small portion of the 15 % of the 4453 acre-space of the city limit is presently inhabited. The remaining 85 % is idle with no business or residential houses on it<sup>13</sup>. Although plans to extend development are being carried out, growth in the city appears to increase slowly. The slow pace of new entrances does not save the residents from the demands of fundamental social services; it creates needs while the small city concept of the community persists. One prominent figure interviewed indicated that “people do not complain about their neighbors for they all almost know each other.” Unlike most neighboring jurisdictions, this small Californian city has gained approximately 750 homes and 2,000 people since 1996, almost double the number in 1990, in spite of the projections that its population might have tripled at the present time (Rio Vista General Plan, 2001). Due to the abundant gas fields, large tracts of land have remained under the control of major drilling companies that have occupied most

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<sup>13</sup> Rio Vista General Plan, 2001

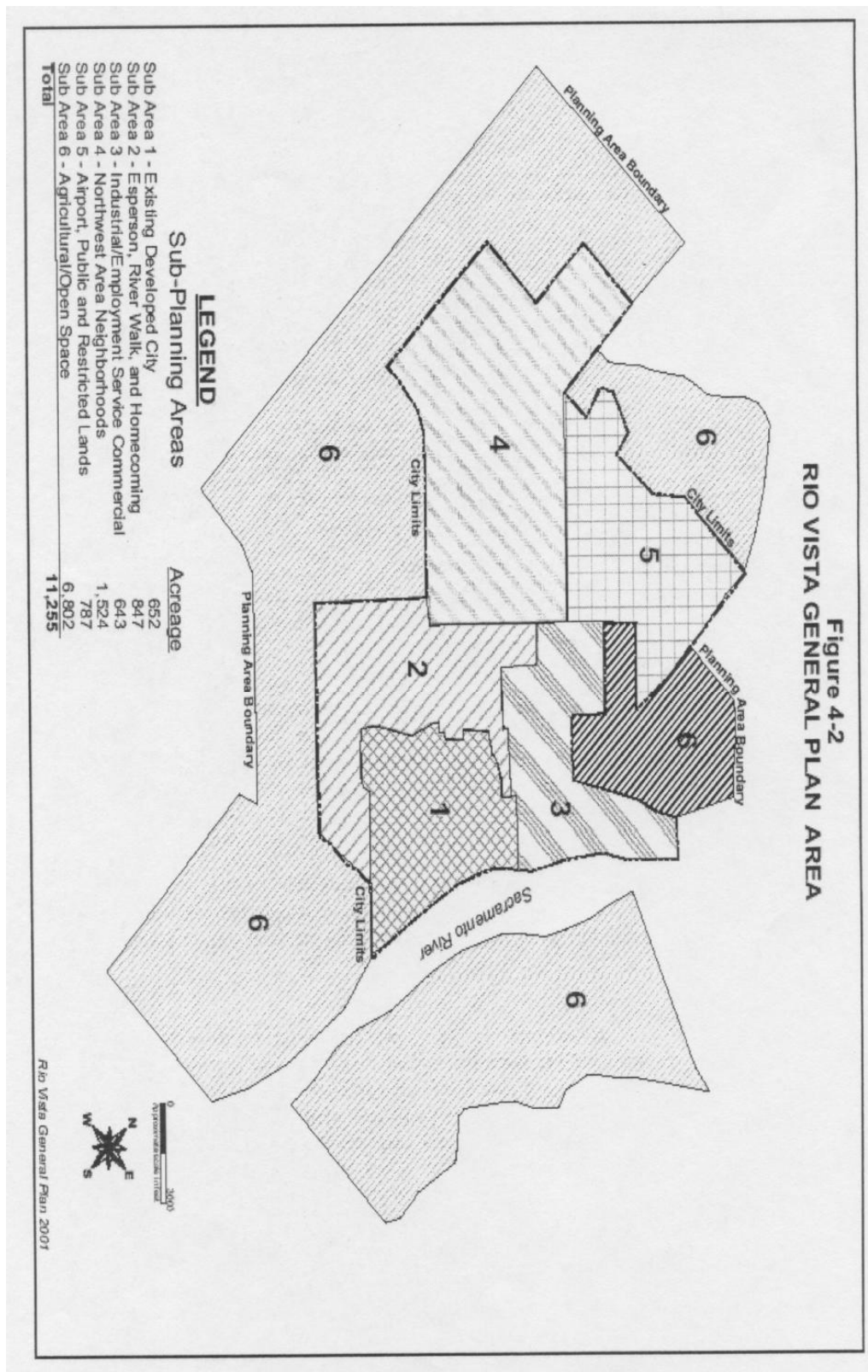


Figure 1.2.GP Planning Area of City of Rio Vista (Source: Rio Vista General Plan 2001)

of the surface where new residents intend to build on.<sup>14</sup> This, in fact, has created a number of conflicts and challenges between mineral rights owners and land surface rights holders. The challenge indeed involves finding opportunities to attract new businesses, create jobs, establish services, erect infrastructures, protect the city's environment and clean water supplies, and improve the public health. Many energy resource neighborhoods have become victim to such difficulties and controversies and have floundered from crisis to crisis while their community and people remain poverty stricken. Although the latter cannot be confirmed about the people in Rio Vista, it is impossible to encounter these kinds of hardships in the community.

If not, why would residents complain and be worried about the gas energy operations in their neighborhood? Why would they keep on pointing fingers at the gas activities near their dwellings and making attempts to block the development around them? Quite a number of residents believe that they ought to go outside of the city almost every weekend to do their big shopping and obtain provisions. The Rio Vista gas field is a land rich in natural gas energy resources. This wealth in the depth of Rio Vita's soil has made the area a very important target zone for drilling companies, a number of which are currently digging into the soil in the neighborhood to produce great volumes of gas. While gas production provides revenues for the drilling companies, the municipality and a certain group of residents (mineral right owners), it is, in contrast, a challenge to the need to preserve the resource and launch initiatives for prospective economic development within the city and is generating anxiety among residents. If, in

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<sup>14</sup> Rio Vista General Plan, 2001

general, there is the need to preserve private property rights of landowners, then there should also be the challenge to look for strategies to building a better community in which people can live and work. But the following question needs to be raised: How great are the employment opportunities offered by the gas industries to the community?

### **5. Resource operations and job opportunities**

The relationship between natural/energy resource production and communities is complex and demands a lot of interactions, decision taking, and resident participation and involvement. For communities are related to any resource produced in their milieu if this resource offers employment and provides services. And wherever these resources are discovered and developed, they are expected to create job opportunities for the local population and improve their lives. As natural resources flow into societies and generate jobs, discussions about their services to the community generally should not focus on employment alone limits the understanding of the range of relationships between resource production and human communities. Focus on employment leaves out consideration for social and cultural bonds in communities that directly depend on a resource-extractive industry<sup>15</sup>. Because the challenges for these communities when the resource base changes are not only limited to finding new employment opportunities but also include the impacts on community structure, culture and organizational variables that exist in the community as its resource dependency become frequently hard to overcome. Communities can be

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<sup>15</sup> Kusel and Fortmann, Oil and Gas Operation Impacts, 1991

dependent upon natural resources but at the same time establish other economic avenues for their people. They can depend on the resources without direct employment ties but with a rational resource revenue earning capacity. Concentrating solely on a natural resource economy to build one area's development puts the resource contribution into jeopardy and decreases its dependency on all people and all communities.<sup>16</sup>

Rural communities face a variety of obstacles in promoting growth and development, [especially] those that are heavily dependent on resource-extractive industries (Brown and Swanson, 2003, p. 348). Because of the low population densities in many of them, the cost of providing jobs, education, health care, transportation systems, and other services is higher than in more densely populated communities (Brown and Swanson, 2003). But this is not exactly the case in Rio Vista since the distribution of the product is done far away from the neighborhood. Due to the small size of the population and the low level of service provision in the area businesses tend not to be interested in entering the neighborhood (Reference to discussions held at a number of economic development meetings I attended in the city during my internship with the city's Chamber of Commerce and Visitor's Center from August to November 2004).

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<sup>16</sup> Kusel and Fortmann, Oil and Gas Operation Impacts, 1991

## **Chapter 2**

### **Literature review: Theoretical concepts of natural energy resource development**

Given the scale and pace of energy resource development and its connections with community transformations, it is not surprising that the study of energy development impacts on local communities has become an important topic of discussion. Although these great transformations have reshaped the structural and cultural dimensions of the community, events at the local level continue to affect the material, social, and mental well-being of residents in fundamental ways (Brown and Swanson, 2003, p. 203). They also continue to affect the connections among individuals, social networks and the norms of reciprocity and trustworthiness that arise from them (Brown and Swanson, 2003, p. 206). Thus as the energy (natural gas) resource development proceeds, its exploitation introduces organizational forms or structures which anew, provoke changes in the old population formation and create new entities that lead sometimes to the decline of the neighborhood's improvement. Robert Putnam in his argument of community decline stated in his thesis that the collapse of community can be traced to the widespread loss of social capital (Brown and Swanson, 2003, p. 204) which, indeed, is a primary concern for residents in Rio Vista who would like to see some development in the area. In fact, rural towns created with the purpose of achieving economic and social changes based on energy resource development are [generally] dependent on extra-local decision making organizations (Summers and Selvik, 1982, p. 25) a direction that Rio

Vista needs not to turn to. Roland Warren in his “Great Change” theory argued that as communities became increasingly reliant on extra-local institutions and sources of income, they become overwhelmed by forces they could not control (Brown and Swanson, 2003, p. 204). Certainly as they became more internally differentiated and increasingly linked to larger systems beyond their borders, the local ties that once connected all parts of the community into a system began to breakdown (Brown and Swanson, 2003, p. 205). Definitely Rio Vista needs not get rid of its small city connection. This atmosphere must be sustained. Thus with regard to the theories, it would appear improper for such a small energy resource community to embrace outside economic adventures for its community improvement, economic development, cultural and social life enhancement. Undertakings centered on such ideologies or concepts could eventually limit the power of the local authority on a number of decision making issues necessary to the development of the communities like theirs within which energy development activities are being carried out.

Integration into a central value system and set of institutions could improve community life (Brown and Swanson, 2003, p. 205), but it has to be acknowledged that such links or relationships cannot work if there is lack of trust among residents. Trust results in a shared commitment to the long-term collective interest (Brown and Swanson, 2003, p. 207) that promotes development in and of community. The development of trust above all, depends upon “the actual needs that persons have for help, the existence of other sources of aid... and the degree of affluence” (Coleman 1990b, 307). Therefore if

members of a community remain concerned with the needs and problems that energy resource development within their neighborhood creates, then how better can a people assess the benefits of the local resource developed in their milieu? In most such communities, however, there are mostly few interactions among organizations composed of individuals with different backgrounds and social and hierarchical positions. These connections, if unified, promote and enhance development of trust necessary for effective collaboration and successful community action. But, if dispersed, interactions delineate the non-existence of collaboration and interaction as seen in most communities best characterized by pockets of social capital that are isolated from one another (Brown and Swanson, 2003, p. 209). Social interaction delineates a territory as the community locale. It provides for the associations that comprise the local society and gives direction to the process of collective action. Social interaction is also the source of community identity.” (Wilkinson, 1991, 13)

A local capacity to address important issues and improve local well-being depends upon the strength of the community field. Thus, community development involves purposeful efforts to create and strengthen the community field. The most distinctive feature of these efforts is the focus on developing relationships and lines of communication within the community and across interest groups (Brown and Swanson, 2003, p. 211) and is what the Rio Vista community needs. Community “simply refers to the fact that one naturally is connected to other people” (Wilkinson 1991, 16). It is, therefore, a natural disposition among people who interact with one another on matters that comprise

a common life (Wilkinson 1991, 16-7). In all, however, the closer the people come, the more efficient the realizations. Community agency as the capacity for collective action is the ability of people to manage, utilize and enhance the resources available to them to address local issues and problems (Brown and Swanson, 2003, p. 212). This is one reason why it is important for energy resource development societies like Rio Vista to properly define their interests and commit to them as I believe they are doing with the numerous economic development meetings held frequently in the city. This is the only way they can build their social capital to achieve their objectives.

Community development is a broad, multi-faceted process requiring the simultaneous advancement and mutual reinforcement of development of community and development in community (Brown and Swanson, 2003, p. 212). Community development and well-being is enhanced when residents work together to address common issues and problems – that is, they exhibit community agency (Bridger and Luloff 1999, 2001; Luloff 1998; Luloff and Swanson 1995; Wilkinson 1991)<sup>17</sup>. Community development strategies based on the concept of social capital direct attention to rebuilding connections that have been lost in the course of modernization. These strategies aim at a rational reconstruction of society – one in which new institutions would replace the traditional ties that once held our communities together (Brown and Swanson, 2003, p. 213). Community is not likely to emerge when residents struggle to meet basic needs. At the same time, however, the persistent linkage between

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<sup>17</sup> Brown David L. and Swanson Louis E., “Challenges for Rural America in the Twenty-First Century”, The Pennsylvania State University Press, University Park, 2003, p. 211,

community action and well-being suggests that efforts to foster the development of community at a local level must be a key component of rural development policy (Brown and Swanson, 2003, p. 213). Many local residents are not up to the challenge of energy resource development conditions and have certain kinds of expectations about the impacts.

Expectations of local residents about the economic impacts that will accompany energy development seem to ignore the negative aspects of the boom (Weber and Howell, 1982). Several studies have found that most people, when they first heard about an energy project entering the community, believed the boom would bring a wave of prosperity in which everyone would benefit (Little, 1975; Cortese and Jones, 1977; Little and Lovejoy, 1979). A number of studies have been undertaken to look into these issues and address the impacts of energy resource development on host communities and their population changes. Several detailed analyses of these changes in western United States communities have [since] been completed (Leholm, et al., 1975; Thompson et al., 1977; Wieland et al., 1977; Murdock et al. 1978; Murdock et al., 1979). They tentatively concluded that levels of population growth resulting from energy development have been substantial and are likely to increase in the future. Thus factors determining the growth include total direct and indirect projections related to employment. All these factors vary with the phase of the project. Furthermore population changes will not be uniformly distributed and are unlikely to revive small communities with inadequate service structures. Finally newcomers attracted by energy resource development are typically young, [which

unfortunately is not the case in Rio Vista]<sup>18</sup>. Also demographic effects of newcomers may create less positive effects on social structures and other dimensions of the community life, although they are likely to renew and revive the demographic structures of receiving areas (Summers and Selvik, 1982, p. 28). In fact, many of the studies have focused on how to address the social changes that occurred in the communities following an energy (natural) resource development. Others have taken interest in determining what these changes are and how they improve life within the communities. For example, the Institute of Industrial Economics in Bergen, Norway in August 1981 sponsored an international conference on energy resource communities where representatives from Canada, the US and the UK presented papers related to the subject (Summers and Selvik, 1982). Various arguments and perspectives were stipulated. But the majority ascertained that host communities are always impacted in various ways by energy resources development.

Without doubt, resource operation development, as has been the case all over the world – from Africa (Nigeria) to Asia (the middle East) over to America (California) – has often had diverse effects on the populations and cities, their economy and politics, their surroundings and neighborhoods their activities and dwellings, their economic growth, environment protection and community development (Royce, 2002). Community development, as we all know, implies that the quality of interactions among the people living in a locality improves over

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<sup>18</sup> See section on Trilogy

time<sup>19</sup>. These interactions both depend on and contribute to enhanced quality of life for each member of the community: better housing, better education, enhanced recreational and cultural opportunities, and so on, all of which are achieved through collective agency (Flora and Flora with Fey, 2004). But questions still remain to be answered on how local energy resource communities like that of Rio Vista would manage their environment to benefit from the energy resource operations carried out on their land.

Where rural land use policies have been adopted, the most common approaches have involved community visioning or planning processes, zoning regulations (see Rio Vista Vicinity & Location map on page 14 & Subdivision plan on page 16) that prevent or discourage rural housing development, and/or financial incentives to induce the desired patterns of land development (Brown and Swanson, 2003, p. 314) but such regulatory approaches to rural land use have frequently been confronted by energy resource exploitation access to land.

Access to land and the minerals beneath it is the basis for all wealth in the gas and petroleum industries. Thus oil and gas company land departments negotiate this access to land with owners, and make arrangements with joint venture partners to acquire oil and gas rights from citizens leaving host and local communities' development growth difficult to realize (Canadian Association of Petroleum Producers, 1999). In some cases, however, existing patterns of surface and mineral [rights] ownership lead to conflicts between surface owners

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<sup>19</sup> Cornelia Butler Flora, Jan L. Flora with Susan Fey, *Rural Communities: Legacy + Change*, 2<sup>nd</sup> Edition, 2004, Westview Press, Boulder, Colorado, United States

and lessees and energy developers, a point that is often overlooked (Summers and Slevik, 1982, p. 28) and resulting in varied critical discussions.

Generally, these discussions on the impacts focus mostly on the economic benefits of those who **own** the land and the **profits** of companies that operate the resources, with little say about the socio-economic challenges that face the population and the community. In the Middle East, for example, profit-driven motives of those who receive large benefits from oil drilling have covered up the needs for humanity and societies' dignity (Levendosky, 2001). Such profit driven developments may not be attributed to the case of Rio Vista, but the following question must be asked: Is the community exempted from the gas production effects?

Authors like Allen in 1955, Delaplane in 1995, Lugtu-Shaddox in 2002 and Jones in 2004 all centered their works and journalistic articles on Rio Vista. While some tackled the importance of agriculture in the area to the city and its residents others wrote about the paramount role of natural gas discovery in the emergence of the city and in the economy of California. They cited this discovery as important for the United States and its allies during World War II. Pezzaglia, a newspaper columnist with the River News-Herald & Isleton Journal, since 2001, has provided information on the historical background, the creation of the city and the calamities it went through before the advent of the natural gas energy resource discovery. These writers wrote about the necessity of a wharf being built in the city on the Sacramento River to serve travelers and handle the numerous commercial supplies brought in by river steamers such as the Nevada,

Yosemite, Washoe, Capital and Chrysopolis, affectionately dubbed as “Chrissie” by the **Deltans** after the 1848 gold discovery in the Golden Mountains of California. They indicated the grandiose services of the farming population to the city and the various gold rush steamers and passengers who traveled in the delta through Rio Vista on the Sacramento River. Their works applauded the gas reserve discovery in the Montezuma Hills on which the city sits and the importance of gas to the Valley. Author Kristin Delaplane, in “Echoes of Solano’s Past: Agriculture boosts for Rio Vista” introduced topics about farming activities of the people in the area. Phil Pezzaglia with his column “Exploring Rio Vista Past With Phil Pezzaglia” which appears in the River News Herald & Isleton Journal of Rio Vista related the history of the city, its gas activities and the people. Steven Martin Shine, in “Early Years in Rio Vista and Stories of the Delta” also touched on basic important issues about the city, the gas discovery, the residential and commercial housing, economic activities and social institutions that were previously established in the city. However, none, according to my research investigation, concentrated their work on looking at the social changes that the natural gas energy production developments have brought to Rio Vista and the impacts these changes have had and are having on the community. The feeling of the people is that the discovery of the natural gas resource has tremendously and positively impacted the community. Even though the community admits some kind of satisfaction about gas energy production, not every resident approves of it and many have concerns about the issues it raises. The product distribution, as we know, is done far away from the area, making it

difficult for the local people to fully enjoy the employment opportunities it presents. The situation of Rio Vista is very interesting not because of its small community nature that many would like to revive but also its environment that has attracted newcomers not typically young as suggested in a study quoted in the work of Summers and Selvik (p. 28) but advanced in age. This demographic change is having its effects on the city, the society and welfare state of the locality, the economic and social structures of the community life. In addition, the elderly population is increasing the diverse social mix of rural California. Motivated by lower housing prices and pleasant safe communities [like that of Rio Vista and quite a number of its residents], retirees are taking their social security and pension incomes with them as they move from urban homes to rural communities. This has led to a greatly increased elderly population in rural areas (Rural California, p. 231) as it is the situation with residents in Trilogy residential housing in Rio Vista. Rural retirees are a visible social force, and they press for community responsiveness to their needs for services just as other groups press for jobs and schools [and other social infrastructures] (Bradshaw, 1990).

Because Rio Vista and its community are not isolated from the characteristics described above, its gas energy development risks encountering difficulties as new elderly residents complain about the insecurity of the gas activities near their homes. Also the city's economic development attempts are also increasing due to the gas related problems which are connected with the tension behind preserving the historic small, safe and pleasant community and growth related issues.

Such are the issues that deserve our attention to finding appropriate ways and manners to investigate the problems surrounding gas development in Rio Vista.

## **Chapter 3**

### **Methodology**

A number of methods, in addition to books, articles, journals and government reports from the energy and natural resource commission on oil and gas activity impacts that I reviewed allowed me to collect information and gather data for this project. Most of the methods I used in gathering data for this work were in relation with the environment within which and conditions in which the information needed was presented. Thus, besides interviews, this research work benefited from friendly lunch meeting discussions at restaurants and coffee shops, archival data collection and participant observations.

#### **1. Interviews**

I talked to and interviewed many people to get an understanding about the natural gas production activities in Rio Vista. I also paid numerous visits to the city, the Trilogy residential housing community, the Assessor and Recorder's Office at the Solano County Headquarters in Fairfield, the Department of Conservation, Division of Oil, Gas, and Geothermal Resources in Sacramento and the Shields Library at UC Davis, to get an in-depth assessment of the gas production activities in Rio Vista (See maps on pages 14 and 16)<sup>20</sup>. And in fact, these undertakings were worth taking.

After a couple of email message exchanges between Phil Pezzaglia<sup>21</sup> and myself in September 2004, I asked for a rendez-vous to meet with him in Rio

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<sup>20</sup> The map was got from the Offices of the California Department of Conservation, Division of Oil, Gas, and Geothermal in Sacramento, 2004

<sup>21</sup> Mr. Phil Pezzaglia was a newspaper writer for River News Herald & Isleton Journal from 19

Vista one Sunday afternoon and he accepted. Phil Pezzaglia is a citizen and lifelong resident of the city of Rio Vista. He has lived in the community for more than 35 years and has been working as a columnist and newspaper writer for the River News-Herald & Isleton Journal since May 2001. He started writing about the history of Rio Vista in 1998. His column is entitled "Exploring Rio Vista's Past". He knows a lot about the city and presently lives there with his family: two daughters and wife, and his dad who he most often contacts for further clarification of my questions if in case he needs it. He also volunteers his time at the Rio Vista Museum where he has been since January 2001. He was recently appointed curator. Professor Al Medvitz, my IAD 200N<sup>22</sup>, who introduced me to the city during the class study tour in 2003, introduced Phil to me. That Sunday, Phil took me on tour at the museum. He spent almost four good hours with me, talking me through the archives and sharing data, facts, history and stories of the river city with me. With his commitment to see me realize this project, he introduced me to Denise Rubiaco, the Executive Director of Rio Vista Chamber of Commerce, under whom I would later on undergo internship training from August 23 to November 3, 2004. Phil became a strong adviser, a source I frequently referred to for information whenever needed. He generously helped me gain information for this work.

I also interviewed other individuals, including two ex-Mayors<sup>23</sup> of the city and fifteen local residents. My investigations were rendered feasible through the assiduous work of Denise Rubiaco, who presented me to the community through

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<sup>22</sup> IAD 200N is a course I took with the International Agriculture Development Graduate Group in Fall 2003

<sup>23</sup> See list of ex-Mayors of the City of Rio Vista from 1894-2005 in the Appendix

a newsletter and the Beacon newspaper. She enabled me to participate in a number of social gatherings and meetings in the community. Denise put me on the right track. She took me to meet and talk to the right people and associations, who without any restraint, supported my work and did what they could to allow me gather the data. The old newspapers and copies of magazines put in my disposition helped me read about and understand the past and present of the gas industry, the community, its economic and social lives.

However, my efforts and negotiations to meet the present Mayor of Rio Vista, Eddie Woodruff, and the City Manager, Brad Baxter, were without success despite my insistence with a couple of emails, phone calls and visits to the City Hall. I had no chance to talk to Roxy Blu of Calpine after she was recommended to me by Barbara LeVake, an agent of Calpine, and whom I fortunately met through Denise Rubiaco at the 2004 Spirit of Solano Award Presentation at the Travis Air Force Base. Although I cannot deny the difficulties and financial problems I went through to get in touch with most of my interviewees, and to gather information, I have to admit that each person that I was able to speak to, happily and amiably made him or herself available to respond to my questions. They provided me with any valuable data that they possessed and I highly appreciate all their efforts, help and time spent with me. Information collected from these people obviously accentuated my curiosity and determination to learn more about the community.

Mary Bell O'Connell, the Director of Rio Vista Museum, and Mr. Frank Bayol, a volunteer worker at the museum, both dedicated their time to share their

knowledge on the gas industry development in the area. As citizens of the neighborhood, they provided me with in-depth information on the history of the city and helped me collect and gather adequate data that make this research work appropriate for discussions on the development and improvement of social and economic standards in the city.

## **2. Investigations and observations**

Investigations and observations I undertook during my internship with the Rio Vista Chamber of Commerce definitely provided me with a lot of findings. These undertakings were facilitated by my involvement in most of the community activities in the city. The meetings I attended enabled me to get acquainted with important economic development topics and community building matters that were making news in the city. They furnished me with specific understanding about the worries of the community. Visits paid to the city restaurant, bars and financial institutions assisted me in looking at things going on in the community. I paid great attention to a number of problems that are linked to the gas drilling activities. My tour of the surrounding areas: Fairfield, Travis Air Base, Isleton, Suisun City, Dixon, and Antioch, also gave me knowledge about the culture, the city and the community around it. Efforts being made by the people to cope with change, growth, social and economic necessities in the community were noticeable. But one major issue that I noticed can be summed up in the following sentence: "Nobody here I talk to wants to see this [city] become a boom town. People want to keep the small town atmosphere, but at the same time, would like

to see some growth. They are not interested in living in a town like Fairfield or Vallejo”.<sup>24</sup> They want to see the gas industry activities go on but at the same time, would like to have some other economic investors come to town.

### **3. Internship with Rio Vista Chamber of Commerce**

It was through this internship that I got the opportunity to meet an agent from the California Department of Conservation: Division of Oil, Gas and Geothermal Resources in Sacramento which I used afterwards to look for, collect and gather data about the gas production in the State of California and Rio Vista in particular.

I subsequently researched the files for and examined information. While I was working as an Assistant to the Director, Denise Rubiaco, I collected data from visitors and residents who came to the office to learn about the community and obtain information about housing, living, working, social life and events within the city. Working with the Chamber of Commerce gave me the chance to know the Board Members, meet important personalities of the city and participate in the organization of the week long 57<sup>th</sup> Annual Bass Festival Celebration which was held in Rio Vista from October 7<sup>th</sup> to 10<sup>th</sup>, 2004. I found out about many interesting happenings in the community. My participation in the Chamber's Board Members' meetings Tuesday and Thursday opened the door much wider for me to ascertain information about the work. The various City Council economic development meetings I was allowed to attend either at the Chamber

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<sup>24</sup> Perry Wilson in “Big Boom and Little Town” by Dale Champion, Chronicle Correspondent; article appeared in San Francisco Chronicle on Monday, March 8, 1976.

Office, the City Hall or other restaurants and places within the community permitted me to understand and acquaint myself with issues around the gas industry activities in the neighborhood and related to the city's growth and development.

#### **4. The Problem of Hahotoe and Kpeme in Togo, West Africa**

Like natural gas in Rio Vista, phosphates were discovered in Hahotoe, a very small Togolese town where raw minerals are extracted. The first phosphate prospecting in Togo happened in 1952. It led to the discovery of a large sedimentary deposit relatively important and of exceptional quality in the area. That prospect initiated the mining of the resource that gained fame in the zone. The annual production of marketable phosphate then rose from thousands of tons in 1960s to millions of tons in the 1980s. Thus, Togo became the World's fifth largest producer of phosphates. Phosphates are a key component of fertilizer and are needed all over the world for farming development. The industrial site where the raw phosphates are processed before their shipping outside the country is in Kpeme. These facilities, located not too far from the mining base, are connected to the nearby shore for the product's easy transportation. Surprisingly, the phosphates industry brings almost nothing to the local people of Hahotoe, as the Government of Togo appropriates the land and handles all kinds of contracts with companies without involving the people to whom the land belongs.

Comparing Hahotoe and Kpeme to Rio Vista shows the great difference in how natural resource industries deal with affairs in two different worlds. In Togo, instead of caring for the people and providing them with the necessary services and also giving them their share of income from the phosphates activities, the production company whose name is “Office Togolais des Phosphates – OTP” operates and leaves the communities without making an effort to develop the community. They simply dig the land and leave the area with just a significant dusting problem, major health and safety issues, land reclamation threats, ocean discharge of waste clay, ground water intoxication, bad road construction problems and mildly contaminated large scale waste material and the community has no recourse to present these problems. Resource operation activities are done without reference to relevant laws and legislation, which in fact, is not the situation in Rio Vista where landowners have their mineral rights and shares of income and residents have their say and freedom to fight for their community development.

These vivid differences increased my desire and curiosity to look at the relationship between development of the community in Rio Vista and the gas industry operation activities.

Contextual and social facts about Hahotoe and Kpeme appear contradictory to those about Rio Vista. Yet, I believe that the two still share common ground.

According to my knowledge and unofficial source of information, the Togolese Government appropriates the phosphates fields and engages in contracts with foreign-owned companies that operate the industry. Although the

phosphates were discovered in the soils of Hahotoe and Kpeme, these two communities enjoy little or no benefit from the production. They get no royalty income from the resource extraction. They do if they are fortunate to be employed as laborers. One major problem is that the land has been roughly dug and left unattended with unleveled surfaces, deep holes and scattered hills and valleys due to the activities. The population is forced to move out to other neighborhoods in search for lands to develop and for greener pastures.

The phosphates development negatively affected the citizens even though they are the original owners of the land. There is a great deal of negligence on the part of OTP for no development strategies are initiated in the community. It is regrettable and unbelievable to see citizens moving out to seek fields to farm on and cultivate. But such are the facts about the phosphates production in Togo.

The quote below from the operating company's website shows what kind of welfare actions are being undertaken in the community.

*"... employees contribute to the smooth running of the plant exploitation. Two residential centers house **the staff**: one near the mine, the other inside the industrial center. Because of isolation, two schools contribute to the education of **employees housed near the center**. Assistance in the domain of health is given to the **employees and their families** by the medical teams headed by a doctor who is also responsible for labor medicine. A socio-cultural center made up of restaurant, a tennis court, a billiards room, an open-air cinema, a photo laboratory, a library, a soccer field etc has been put up at the disposal of the **employees** in each of the residential centers."*<sup>25</sup>

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<sup>25</sup> <http://www.otp.tg/eng/index.html>

In fact, things are done as if there is no landowner in the community. It appears as if no one has rights. The company does not care about the community. Its objective seemingly is just to satisfy the employees (who are mostly outsiders) and the employer. Nothing is realized for the benefit of the people in the neighborhood. And due to the biased and corrupted ways of managing the phosphates operation activities in Togo, the UN recently assigned a committee to look into this Togolese situation which is largely contrary to that of Rio Vista which I will briefly situate before getting into the depth of its gas energy issues. A summary of the history about its creation, and activities that contributed to social changes in the community will be discussed in the section. An accent is put on the history because it helps to understand the present state and socio-economy development of the city.

## Chapter 4

### Rio Vista Discovers Gas

#### Part 1: Creation of the city

##### 1. Location and growth

Rio Vista is a small wealthy city located in the heart of the Sacramento River Delta, a region of abundant natural gas resources and recreational opportunities. Rio Vista is in Solano County. It is a peaceful community. It is situated about 38 miles northeast of San Francisco, 35 miles northwest of Stockton and 40 miles southwest of Sacramento, the present capital of California. It is not far from Fairfield. The population at present time is over 6,000 people (see table of population growth and trends below). It was founded in 1857 but incorporated as a city in 1893. The City, although receiving gas production income, today, relies in large part on the same agricultural economic base that has sustained it for more than a century (Rio Vista General Plan, 2001). Since the 1930s natural gas discovery, gas production and its related businesses have impacted the economy and social norms in the municipality.

*Table 4.1. Population growth and trends<sup>26</sup>*

|                           | 1960  | 1970  | 1975  | 1980  | 1990  | 2000  | 2005  |
|---------------------------|-------|-------|-------|-------|-------|-------|-------|
| Population in City Limits | 2,616 | 3,135 | 3,160 | 3,142 | 3,470 | 5,100 | 6,810 |
| City Occupied Dwellings   | 900   | 1,046 | 1,122 | 1,440 | 1,460 | 1,446 | NA    |

**Source:** State Board of Equalization, City of Rio Vista, and River Delta Unified School District

<sup>26</sup> Rio Vista Community Economic Profile, based on the format established by the State Chamber of Commerce

Due to the fertility and richness of the soil, the city and its surrounding neighborhood has remained an important agricultural and natural resource zone in California with great economic opportunities. Farming remains the main activity of the inhabitants even though there are other small-scale businesses. Those who own the mineral rights benefit from the gas royalties as well since the economy was boosted in 1936 by the natural gas discovered in the area. The benefits of the gas fields tremendously changed the lifestyle of Rio Vista, although landowners who benefited from this great resource never abandoned their agricultural and ranching work combined recently with wind farming.

## **2. Coming into being of the city**

Rio Vista was founded in 1857 thanks to the purchase of land by Colonel Davis from General John Bidwell. The City was initially named “Brazos del Rio” or “The Arms of the River” because of its location at the junction of the three branches of the Sacramento River. The name was changed to Rio Vista meaning River View in 1860 by the wife of Mr. Charles A. Kirkpatrick who was appointed as postmaster to replace John M. Sidwell on August 18, 1858. Rio Vista is the fruit of the labor of numerous rich men, poor men, merchants, coolies in bond, gamblers, men from all levels who, on one hand, were interested in the richness of the soil, and on the other, fired by the lust of the yellow metal discovered in “The Golden Mountains” of California. After Colonel Davis built his first home in

the new town in 1858, many structures followed: the storehouse, butcher shop, hotel, blacksmith shop, general store, and livery stable<sup>27</sup>.

People came to Rio Vista from all parts of the world and many walks of life. They came to farm the open land. Through the river roads and the trails that led to the creeks and ledges of the gold metal discovered in the mountains of California, this small city would move through various developmental stages, including natural (the Sacramento River flooded in 1861) as well as man-made (the discovery of the natural gas in the area in 1936). Rio Vista saw different changes due to the importance of its agricultural and economic production and fluvial activities. The rush of the miners, machinery and supplies to the gold fields by the steam ships led to the necessity of a dock at the settlement. Therefore in the spring of 1858, Colonel Davis hired John Sidwell to construct a wharf 75 feet long and 24 feet wide.

The construction of this wharf made Rio Vista a strategic location for steamers. A year later, California Transportation Company leased the wharf and doubled its size. The great structure made it possible for all steamers like the New World, Senator, Antelope, Navajo, Yosemite, Chrysopolis and Eclipse to make daily stops at the small but rapidly growing settlement (River News-Herald & Isleton Journal, 2001, p. B3). The building of the wharf was important in Rio Vista's existence because it was the one main factor that led foreigners to discover the neighborhood. As it helped farmers and fishermen to ship their products to the Bay Area and outside the community, it enabled newcomers

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<sup>27</sup>Pezzaglia, Phil, May 2, 2001 "Exploring Rio Vista's Past with Phil Pezzaglia – The Story of Rio Vista's Original Founding", River News-Herald & Isleton Journal, Rio Vista, pB3

enjoy the great opportunities the city presented. The wharf boosted the economy and created a station for steamers and travelers to rest themselves and their engines as it promoted the building of hotels in the city. However, it would also lead to misfortunes in the city.

### **3. Agricultural work and flood in the city**

Passing through the deep rich lands of the Sacramento River delta and its productive soil, sailors and travelers on steam ships began to become interested in the potentiality of the fertile soil and freedom from hunger that the region meant to them. The numerous "Gold Rush" adventurers from China, Madeira Islands, Portugal, Denmark, Italy, England, Germany, Canada, Ireland, and many other countries hastened to establish themselves in the region. Having been involved in farming before, a great number of these new people would pursue the same agricultural work in Rio Vista to capitalize on the richness of the land. They worked the land for fruit, celery, beans, asparagus and sugar beets. The commodities spearheaded trade in Rio Vista with steamships docking from day to day. Because of the affluence of the steam ships at the port and all the activities being undertaken in the small town of Rio Vista, and daily stops of the ships to deliver goods to the people, the small city began to revive.

Unfortunately, in January 1862 the town, then with one hundred and fifty (150) inhabitants flooded. This natural flooding destroyed much of the agricultural products and activities and obliged many of the inhabitants to leave the town. The catastrophic event and situation in Los Brazos del Rio pushed some traders

or sailors who had been sailing along the Sacramento River to report to General Vallejo, then Commander in Chief of the region. He responded that, 20 years prior, the rains had caused flooding in that area as he sailed right across the Los Ulpinos Grant on his way to Benicia. That information however, would not diminish citizens' interest in the area with the fertile soil that they had got used to. The desire to still live in the area pushed them to look for a new site.

#### **4. Re-locating Rio Vista**

Abandoning any hopes for a town on the Bidwell tract, some of the town leaders looked down the river for a more secure location. They were looking for a place above its reach, which still had river access and enabled them to pursue their farming activities, a place where they could build a new town. In March 1862, four gentlemen, John M. Sidwell, Samuel R. Perry, William K. Squires and Isaac Dunham approached Joseph Bruning, the owner of the land, a rancher, and asked to acquire some land to form a town at the far end of his ranch. Bruning had been a prosperous businessman in San Francisco, but failing health had forced him to relinquish his business and relocate to the area. He agreed to donate the land, took an active role in its beginnings and, hence, is looked upon as the town's founder. John T. Peabody, County Surveyor for Solano County and recorded April 22, 1862, surveyed a "Map of the town of New Rio Vista on the Sacramento River founded by Joseph Bruning". Mr. Bruning simply gave the land to the gentlemen instead of selling it to them. The first settlers continued the farming again and did 'salmon fishing' which was the activity of the Indians who

were living earlier in the delta region. These activities made the settlement become well known. Thus, people began to return to the city.

Los Brazos del Rio, thereafter renamed Rio Vista, grew to become the largest town in the delta region. It became the main business center for the productive agricultural area and a place of residence for many of the growers of vegetables and fruits in the area. The rebuilt town thrived as a center for salmon fishing, the dredging and building of levees and as a port for the varied agriculture products. The agricultural season was year round, making it one of the busiest ports. November to March was the period of celery, March to July, asparagus and fruit, July to November, beans and sugar beets. All these crops were grown on a large scale and shipped everywhere and the town's water facilities accommodated the largest vessels and steamers that called in regularly. As a fishing port, Rio Vista prospered due to the excellent salmon fishing both for the commercial fishermen and sportsmen. Thus these agricultural activities and fishing launched the early economy of the city.

#### **5. Building the community: early economy and social development, businesses and new arrivals, religious and educational institutions**

By 1870 Rio Vista had been accommodated with 3 hotels, 1 restaurant, 2 drug stores, one fruit and vegetables store, 3 shoemakers, 2 barber shops, one tin maker, 1 tailor, one flour mill, one undertaker, 2 blacksmith shops, one furniture shop, a planning-mill and a leverage stable as well as 2 steam shops. Two lines were in charge of transportation: one California Railroad Company

carried the US mail and Wells Fargo express to Rio Vista whereas another California Transportation Company catered for the river trade of fruits, vegetables, tin and so on.

It has to be recalled that with the boom of the 'Gold Rush', the Sacramento River became a transportation line for the majority of the adventurous Asians involved in the search for the gold. Inasmuch as many returned from their searches, they ended up settling in the new location and also developed some farming activities. Hay and fruit farming was commenced. The arrival of Chinese in the area pushed up the development of peach and pear orchard planting, sugar beets, and asparagus farming. As the numerous boats that carried merchandise to the fruit and hay farmers located in the delta docked at Rio Vista's port of landing, salmon fishing rapidly became one important activity of the people. Thus Robert Carter and his son Robert Junior thereafter would build a salmon cannery in 1865 to help the fishermen and would run a tin shop. Robert Carter would even do the outside of his house in tin. Levee making also became a business. The presence of tin that the steam ships traveling on the river carried to their customers made blacksmithing another economic activity in Rio Vista. John M. Sidwell built the 1<sup>st</sup> hotel and Samuel Perry constructed the first general store. William Squires also built a hotel. These institutions helped visitors and travelers to be more interested in Rio Vista and its economic activities. Thus other social services such as churches and schools became needs for the small farming and ranching community.

With the growth of township going on, education became an essential need for the people. Thus in 1862, the owner of the land, Joseph Bruning donated land on which the first public school was built. The first teacher was James U. Chase. In June 1868, the Catholic Church was founded and built on 4<sup>th</sup> Street. The town would be acquainted with a congressional church, The First Church of Christ, in August 1868. It had 15 members and received its charter in 1869.

As the community grew, the need for a larger schoolhouse arose. The 1862 school was torn down and a larger two-story schoolhouse was built on the same site as the first, on Montezuma Street. This school existed until it was destroyed by fire in 1917.

The year 1876 saw the establishment of St. Gertrude's Academy by Joseph Bruning for young ladies. The institution was under the authority of the Sisters of Mercy and Mother Superior and Sister Camillus who came from the East. In its first school year, it had only 12 students and 9 nuns. The cost of registration and the requirements for attending this school proved it to be an institution for wealthy kids. And indeed, history indicated that those rich families' children from San Francisco and the Bay Area attended this boarding school. Very few local children were in attendance, as the costs were too high for local residents.

In 1903 another prestigious boarding school was constructed in Rio Vista. St. Joseph's Military Academy for Boys operated from 1903 to 1932. This school was a boarding school just as its companion academy, St. Gertrude's. The same

nuns from the order of the Sisters of Mercy operated it. However this school seemed to have more local attendance than the girls academy did.

A third religious body was founded during the late 1877's. That was the Methodist Church. This congregation never built a church house but rather used town halls and rented public spaces for its gatherings. The Methodists were there probably for about less than twenty years.

In 1877, the statistics showed that there were 39 new buildings built in Rio Vista. The population living in the town was six hundred and one (601) which included 217 adult men, 140 adult women, 115 male children and 129 female children. Among the population, 206 were employed.

By 1880 the Academy for Girls had more students. Tuition fees were at one hundred and twelve (\$112) dollars per a semester of five (5) months but many girls from the Bay Area got enrolled in the school. Socio-economic life in the small community began to take a dynamic turn. Unfortunately, some few years later, the core of the downtown got burnt down. About four nightclubs were in existence in the town by then as a fire outbreak on July 20, 1892 in downtown Rio Vista destroyed a total of seventy-five (75) structures, a time when the majority of the buildings were made of wood. That fire wiped out the entire business district, and the downtown had to be rebuilt.

## **6. The Incorporation of the City of Rio Vista**

As far back as the mid 1870's the settlement of Rio Vista toyed with the idea of incorporation. Whenever the subject arose it would shortly thereafter

disappear. On December 30, 1893 the township of Rio Vista was incorporated into a town, after an open election. Surprisingly to the whole community, Joseph Bruning the owner of the land, who generously donated part of his land for public facilities development, was one of two persons who were opposed to the incorporation. The other was Mr. John H. Gardiner, another large landowner, in the community. The reasons behind the complaints from these two very generous individuals were based on taxes. Joseph Bruning wondered about what he might be paying as he had a large amount of property taxable therein, to-wit: \$13,850. Whereas John H. Gardiner's property was also taxable therein, to-wit: \$12,143.<sup>28</sup> After the incorporation Rio Vista had a Board of Trustees composed of a President whose name was Martin Christensen; four (4) vice-presidents: Louis Ruble, E.C. Dozier, J. E. Sullivan and G. Thompson; a Treasurer: Lars P. Lawson; one Marshall: Henry Boocks and a clerk: J.S. Ford. At the election for the incorporation there were 59 for and 46 against. The population at that time was 650 with 129 eligible voters among whom 119 voted during the election for the incorporation<sup>29</sup>. The incorporation promoted the small scale businesses and generated various undertakings to keep the economy and the community alive.

## **7. Activities that sustained the economy and the community**

It is important to describe the small businesses that supported Rio Vista's economy and the community in the past before discussing the effects of the gas energy. As we have already indicated above, Rio Vista was a small farming

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<sup>28</sup> Pezzaglia, Phil, December 5, 2001 "Exploring Rio Vista's Past with Phil Pezzaglia – The Incorporation of Rio Vista", River News-Herald & Isleton Journal, Rio Vista, pA5

<sup>29</sup> River News-Herald & Isleton Journal, Wednesday December 19, 2001

environment after gold rush searchers began to settle in the neighborhood. And apart from these farming activities, dredging, fishing, blacksmithing and levee building constituted the other forces of the economy. These small businesses and the farming backed by local financial institutions, and promoted by newspaper industry (see section below), in fact, exposed the city and the gas resource assets and avenues of development to its proximities and the world.

Rio Vista would not be in existence without the works of those early pioneers: farmers, gold rushers, levee builders, fishermen, travelers and so on. Farming and ranching remained the main activity of the people. Hay farming and pastoral agriculture constituted the work of the majority in 1871. Ranches were built to raise cattle and herd, as the land was cultivated. Food products were the main merchandise shipped outside to the Bay area and other locations.

In the late 1800's, dredging was developed to control the water. Levee's and levee control became important as people began to feel the need to keep most of the water channels way out to gain land for their farming activities. Evacuation remained an issue to the whole community as the Sacramento River continued to flood the edge of town from time to time. As equipment and materials to do all these jobs became necessary, blacksmithing shops were established.

This gave growth to the farming activities. Local farmers started exporting hay, salmon and flour. Because of the fertility of the land, warehouses began to be constructed along the river to stock farm products. Three (3) warehouses were built to house 6,000 tons of grain and 6,500 of hay. The warehouses were

built right in Rio Vista and halfway between the old and new Rio Vista they built 3 more warehouses for stocking 4,000 tons of grain and 3,000 tons of hay. The ownership of all these warehouses was in the hands of Johnson and T.P. Emigh. In addition to the warehouses, they built a lumber shop for lumber that was brought from San Francisco. As those economic activities began to grow the people also began to think about how to house the various people who were coming to Rio Vista. Thus they began to develop some housing facilities. Also the distribution of water became an important issue. Hence, a gentleman by the name of Mr. Carter decided to start a water business company taking water from the river, boiling it and distributing it in the town.

Many other businesses then came into existence following the growth of farming activities in the area. Some are the Rio Vista Hook and Ladder, which was the first fire department with Mr. Carter as the foreman. This department had 30 volunteers as its workers and was built in October 1871. Although there are some paid employees, the fire service today is still primarily voluntary.

Due to the importance of Rio Vista gas field in the economy of the state of California and that of the nation, a highway bridge was built to link the community to its neighbors. The Rio Vista Bridge completed in 1919 at a cost of over half a million dollars, thus linked Solano County to Sacramento County, two out of the three counties within which the Rio Vista gas field is extended. This bridge, in future years, would be instrumental in connecting highway 99 and Interstate 5, in Lodi, and interstate 80 at Fairfield, highways on which most of the gas company trucks operate. This importance of the bridge was noted by one of the area's

newspapers, The Solano Republican, which announced at the opening: "The Rio Vista Bridge across the Sacramento River is one of the largest structures west of the Mississippi."<sup>30</sup> It would be a factor in the economic development of the [city], the neighborhood and the county.

## **8. The newspaper business**

The role of newspapers in the development of Rio Vista has also been tremendous and it needs to be recounted. One of the strongest predictors of whether a [rural] community had carried out a successful economic development project was the presence of a newspaper that not only reported community issues but reported them fairly (Flora and Flora, 2003, p. 68). The local newspaper can play a significant role in conveying or [even] failing to convey the information needed to make informed decisions in the city.

Throughout Rio Vista's existence various newspapers had the opportunity to be extremely active in documenting events that happened within the community, promoting activities and writing about any development that occurred in the city. Besides their information and advertisement roles in the city, these newspapers contributed to the uplifting of the economy as they tried to depict the assessment of and progress in the community. Indeed not only did their businesses essentially provoke other people's entrance into the community and initiate competition and challenges between them and other publishing houses interested in the community, but they also rested as watchdogs as they wrote

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<sup>30</sup> Delaplane, Kristin. April 30, 1995 "Echoes of Solano's Past: Agriculture boosts Rio Vista as major port, <http://www.thereporter.com/Current/Conti/Archive/conti043095.html>

about the good news and any kind of controversial issues happening in the community. Examples are the publications about the debates between homeowners in the Trilogy residential units and Calpine that have been going on. They also supplied the community with few job opportunities.

One of these publications, the River News-Herald, would even become a big supporter of the gas industry providing numerous positive articles about gas developments throughout the years with references to the gas industry as an indispensable income generator for the community. This local newspaper publicized the gas discovery and its production activities in the Rio Vista Gas field as well the local business that the operation generated. Thus, with all the events and developments taking place, the publishing agency became an important and competitive business between citizens of the town. At a time when the public needed to be informed about all the daily occurrences, men began to establish the news business. The Banner and later on the River News would follow to create the public information cycle in Rio Vista.

The newspaper business would be greatly boosted after the gas discovery in 1936. It would even provoke the interest of newcomers in the handling of its affairs. As in 1957, a retired advertising executive, Paul A. West, thought that the small town of Rio Vista would be a wonderful place to spend the rest of his retirement years. He had been looking into the River News as a business venture, for a while and finally, he decided to act upon his idea. Mr. West negotiated with both Charles Flodin then owner of the River News as well as with the owners of the Delta Herald, another Rio Vista newspaper, to purchase both

the papers and consolidate them into one. He did that and combined the names to create River News- Herald. Late in 1959 the Solano Delta Publishing Company owned by Mr. West and also publishers of the Solano Republican with which he merged operations decided to sell off the River News-Herald. Mr. Ardle C. Pierce a stockholder in the River News-Herald Publication negotiated for its purchase from the corporation. The newspaper eventually moved its offices to their present location on South Second Street in the 1960s. In 1976, Leland Clinton "Clint" Haywood and Watt Little bought the River News-Herald from Mr. Pierce. Mr. Haywood acted as publisher and advertising manager while Mr. Little held the position of editor. Both men continued to operate the paper until they sold it to the present owner, the Gibson Publications.

In fact, these papers played a capital role in the natural gas discovery operations and the economy of the neighborhood. Their contributions to the financial and social institutions were countless as most of their advertisements were made in these papers that promoted the community and its gas resources.

## **9. Establishment of financial institutions**

### **a) The Bank of Rio Vista**

Through the work and publicity of the newspapers, the city became famous about its gas industry and drilling market. Thus, financial institutions that existed began to grow as others started to enter. They were created and established to help run and do business, control the economy and the gas market in Rio Vista. The banks began to assist the residents, small businesses,

farmers, ranchers and workers with the necessary services for their savings, investments, economic and other financial transactions. They provided the companies, land owners, mineral rights holders and royalty beneficiaries a safe place to invest, look for investments, deposit and save their money.

The Bank of Rio Vista, the major contributor in this domain, massively grouped many residents on its side after its establishment in 1904. It became a hometown owned and independent Community Bank and first opened for business in September 1904 in the office of the Sullivan & Larsen Company. Some years later, the First National Bank entered business in the city. Unfortunately, in November 1922 a controlling interest in the First National Bank was purchased by two of the major stockholders in the Bank of Rio Vista. The First National Bank was then dissolved and the Bank of Rio Vista moved into their five-year-old building, in which the Bank of Rio Vista is still located at present. In 1958 the building was enlarged and remodeled as business began to expand with the gas operations. Services were great and expanded throughout the neighborhood. The Bank of Rio Vista prospered when the gas drilling industry came to town. The farming families which had been both involved with the bank on a stockholder level as well as patrons continued to put their faith in the local financial institution when large sums of money were being paid from gas well royalties. Residents put their trust into the institution and the latter made sure that the community was served.

The Bank, originally formed to serve the agricultural needs of the Sacramento Delta, now serves Central California from the Delta to the Foothills

and particularly, Rio Vistans who earn revenues from gas production. The bank continued for more than 80 years under several generations of local ownership and management<sup>31</sup> and has long been identified with the progress and development of Rio Vista and the Delta. It has been in the city for more than 100 years now and has sustained the gas activities. It offers its clientele a full line of services, including all types of checking and savings accounts, Money Market Certificates, Individual Retirement Accounts (IRA), Travelers' Checks, Safe deposit boxes, collection services and loans for all purposes.

Besides the present President Tim Kubli, the bank had had only five Presidents, during its century in business. Members of the McCormick family, who owns a majority of the land and has an important share of the mineral rights<sup>32</sup> of the Gas Fields, have been on its Board of Trustees for ninety years. Wallace McCormick, the fifth president of the bank held the position for more than fifty years. During the celebration of the bank's fiftieth anniversary, which was eighteen years after the discovery of gas, Wallace was quoted as describing the bank in 1954 that "Throughout fifty years of changing world conditions, including wars and depressions, this bank has devoted its efforts to serving constructively, the people of Solano County. As this bank begins its second half-century of service, these concepts will continue to be applied as the way in the first fifty years. For those we affirm our faith in the continuation of what has come to be regarded as the American way of life, and other principles of free enterprise." In addition to its two Rio Vista locations, the bank today has offices

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<sup>31</sup> Front page of a 1985 Bank of Rio Vista Calendar

<sup>32</sup> See the table of 2005 Solano County Mineral Roll in the Appendix

in Isleton, Walnut Grove, and recently in Valley Springs. After more than one hundred years in service, and an expanding community, the majority of local businesses and residents still use the Bank of Rio Vista as their primary financial institution. Many of the newly relocated residents have also found that the Bank of Rio Vista meets their needs with the highest priority towards making them feel like part of the community. It is even said that during the years that Amerada was in charge of operations in the local gas fields, one large royalty check was sent to the Bank of Rio Vista which would then break it down and send out checks to each individual royalty beneficiary.

It competes, at this present time, with the bank of Stockton in the community and on the Rio Vista finance market. But between the 1920s and mid-1990s some other financial institutions also tried to do business in the city. Many would however quit due to the failure of their services.

#### **b. Other local banks**

In 1915, a group of local businessmen formed The First National Bank of Rio Vista. They erected a building on the corner of Main and Front Streets, a building in which the Bank of Rio Vista is currently operating (see section above).

The Delta Bank was yet another financial institution established by local businessmen. The bank was short lived and only existed from 1922 to 1936, year of the gas discovery, when Bank of America bought them. The Bank of America operated in Rio Vista from 1936 to the mid-1990s. Its structure which was constructed during the mid 1960s is presently occupied by the Bank of Stockton.

In addition to these financial institutions, Rio Vista has also seen the presence of other banks such as Bank of Alex Brown which was closed down in 1982, First Interstate Bank from early 1980s to the 1990s, Washington Savings and Loan in the 1980s and 1990s and San Joaquin First Federal Savings from early 1970s through 1980s. All these banks came into existence in Rio Vista because of the gas income that made the area economically marketable.

In fact, the above-described financial institution activities eventually kept the economy running within the community and mobilized the social network in the city as the natural gas sites in the area were discovered and produced.

## **Part 2: The search for new economic avenues: The gas discovery**

### **1. The unfortunate experience of oil search in the Rio Vista-Montezuma Hills**

Oil and natural gas have seeped naturally from underground sources to the surface of the earth for millions of years in *onshore* and *offshore* areas. These natural seeps became a great part of the discoveries in the 1900s especially around the Bay area, Sacramento River delta and valley. They constituted mixtures of crude oil, asphaltum (tar), natural gas, and water. Several hundred of these oil and gas seeps have been found in 28 counties throughout California and they've played important roles in human social and economic history in the state.

The presence of oil in the Rio Vista-Montezuma Hills area had been speculated for a numbers of years. These speculations were intensified by the

discoveries of oil in surrounding neighborhoods. They therefore instigated the desire of citizens in Rio Vista to undertake research for oil opportunities in the Rio Vista fields. Unfortunately the oil search in the Rio Vista-Montezuma Hills resulted was unsuccessful. Indeed, no one expected or knew about the gas until the first search was undertaken. The discovery of new sites in neighboring counties initiated the curiosity of the then landowners and researchers. But things were not rosy at the early stages of the search as in 1920 experts in the field of geology were hired and sent out to do the site research. This was done and information gathered was brought in. The reports fortunately favored the intuition of the people in a way that their interest in drilling for oil was initiated.

In 1921 Pacific Gas and Electric (PG&E) drilled the first well suitably named "Montezuma No.1." It was under the direction of Stanford Scientist and Educator Dr. Bailey Willis. Montezuma No. 1 was dug on July 20, 1921 at approximately 7 miles west of the town of Rio Vista in the Montezuma Hills. PG&E leased a large amount of land with expectations of discovering much more oil. After five weeks, drilling reached only 1,000 feet upwards. In fact, engineers looked forward to drilling a minimum of 2500 to 3000 feet before any definite result could be expected. For 320 days drilling crews worked in eight-hour shifts, with rotary equipment before the well was finally shut down in May 1922. Thus ten months worth of work unfortunately brought nothing to the economy of Rio Vista. The idea was then abandoned.

## **2. Re-enacting the oil drilling dream**

Six years passed and drilling for oil was just a thing of the past. It was becoming a story that people were already starting to put into oblivion when one Mr. Foster, from Tulsa, Oklahoma, re-enacted the idea. It was in February 1928. Speaking at the Rio Vista Veterans Memorial Building, located at the corner of California and Third Streets, Mr. Foster revisited the possibility of looking once again in the area for oil. He offered to drill test wells, for free, to ascertain whether there was any oil or gas in the territory. The suggestion raised little interest because residents were disappointed with the last experience.

Eight good years then passed by, and for the third time, in 1936, as the idea of drilling for oil in the Montezuma Hills represented itself once again. This time, it was based on the seismographic reflection and data gathered, and geology tests performed by geologist, Downs McCloskey, who under the direction of Amerada Petroleum Company took a look at the compiled data. After analyzing, compiling and presenting the data to Amerada, talks of drilling in the Rio Vista-Montezuma Hills area rose again. Based on the data, Amerada looked into and took extensive leases on lands in the area.

Eventually, a number of Rio Vista farmers, who still had the disappointing memories of the earlier drilling that cut their expectations and happiness short at that time, were very anxious but willing to take the chance once more.

### **3. Rio Vista Natural Gas Field: The 1936 discovery**

Today, off Highway 12, on what was once known as the Emigh Ranch, sits a large metal contraption housed under an old tin canopy. A puzzle of green and rust-covered tubes, it looks like it should be shipped to the junkyard instead of sitting in the backyard of a ranch. Just a few feet away from this abandoned metal mess, in what is now Calpine property is a plaque posted on a three-foot high rock which reads: "Amerada Hess Corporation. Emigh No.1. Completed June 18, 1936, Abandoned February 2, 1973"<sup>33</sup> This was the first gas well site built in Rio Vista when the discovery was made in 1936. This same well was re-drilled in the 1950s.

In 1936, the history making first natural gas well was drilled on the property of Arthur Emigh and named it Emigh No.1. The Amerada Petroleum Company dug the well, which was situated about two miles west of the town of Rio Vista on June 18, 1936. The first well, Emigh No.1, was drilled in 44 days to a depth of 4,485 feet. Its initial daily production rate was 8, 750 thousand cubic feet from the bottom 207 feet of formation. But it has to be recalled that Amerada Petroleum Company was actually drilling for oil when they discovered the natural gas. Production then began. But where to sell and how much the gas would cost per thousand cubic feet remained a concern.

The low price 7.5 cents per thousand cubic feet (Mcf)<sup>34</sup> at the time, and lack of market made the gas flared and considered a by-product in 1936. However after the completion of Emigh No.1 the gas flowed at rate of 8750 Mcf

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<sup>33</sup>Jones L. Kevin, River News-Herald & Isleton Journal, Vol. 118 No. 20, Wednesday May 19 2004

<sup>34</sup>Notes from old newspapers archived by River News Herald columnist Phil Pezzaglia, 2003

per day. This necessitated the building of other wells and making new discoveries and looking for markets. Indeed the construction of the well was the biggest thing to happen in the area in many years as many local citizens and school children sat in the surrounding fields watching as the wells were constructed and put into operation.<sup>35</sup>

#### **4. Royalties: The fight for a municipal lease**

In the early years of gas development, royalties were paid to only individual landowners directly without any municipality intervention or share of the income. For six years after the discovery of the gas in the Rio Vista Field, the City received no royalty income. The companies did not want to deal individually with the landowners, trustees of the mineral rights. This situation started arguments among the citizens who believed the City should be paid something since the gas is drilled and drained on its soil. Thus, in the interest of the community and that of the oil companies, and more importantly due to the difficulty of distributing the royalties to private individuals, a citizen committee recommended a municipal lease to be signed by the companies; the lease was deemed the Elliot lease.

The Elliot lease would therefore allow the City of Rio Vista to receive royalties amounting to one-half the proceeds for gas produced in all the Rio Vista property. This arrangement was put into effect in the summer of 1943 and has been hailed as one of the outstanding community leases in the country. It has

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<sup>35</sup> id

brought in several thousands of dollars of revenue annually into the city treasury over decades since the payments began.

The lease was due to the efforts of two Rio Vistans who had been prominent in the civic eye for years and who, at the time, were serving on the City Council: Harry Alley and Earl Stewart. The community lease was desirable to the producing oil companies chiefly because of fractional acreages that would have been the basis for production quotas in the absence of a larger lease covering all the property. The oil companies, at the time, eyeing the gas reserve below the City and desiring to deal with all the property as one entity rather than separately, was for the community deal<sup>36</sup>. It, therefore, remained for Alley and Stewart to perform the monumental task of getting 90 percent of the Rio Vista property owners to sign up. The council received little encouragement at first as many people told them they could get “90 % of the people in Rio Vista to agree to anything”<sup>37</sup> but they went ahead doggedly, and started contacting property owners. They held strategy sessions in their homes, then went out and pounded the pavement, door-to-door. Their hardwork paid off by the lease, which was signed in June 1943.

## **5. The Community Lease**

The following letter dated March 13, 1943, given to the Rio Vista Museum as a gift by Louise Stevenson, details the struggle the two councilmen Harry Alley and Earl Stewart and, the City of Rio Vista had to go through to obtain the

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<sup>36</sup> River News Herald 75<sup>th</sup> Anniversary Edition, 1965

<sup>37</sup> id

gas lease which today still entitles the city to enjoy a share of the gas revenues and royalty.

#### **CITIZENS COMMITTEE TO RECOMMEND A MUNICIPAL GAS LEASE**

**March 13, 1943**

##### **RIO VISTA PROPERTY OWNERS:**

*Inasmuch as many of the citizens had complained to the City Council that gas underlying the city was being drained, a meeting was held on June 9, 1942 at the City Hall at the request of your Council, with representatives of Amerada Petroleum Corporation and Standard Oil Company of California, to determine whether or not a royalty could be secured from the unleased land in the City of Rio Vista. While Amerada and Standard refused to take direct lease from the individual lot owners, they were willing to cooperate with your Council and the citizens and accept a lease providing a 25% royalty (which is double the normal royalty paid) with a guarantee of \$10,000 per year.*

*Following the meeting of June 9<sup>th</sup>, Amerada and Standard spent several months and considerable money in the preparation of lease forms, checking titles and lot ownerships.*

*The lease was approved in its final form by the City Council, and the City Attorney, and submitted to the property owners for signature on December 29, 1942.*

*While gas has produced from the Rio Vista Field and drained from under City lands for over six years, and while for the past five years no one has offered to lease these lands (and had the City been able to enjoy such a lease as Amerada and Standard originally offered, an income of at least \$50,000 would have been received to date), yet notwithstanding the long period of inactivity, and after approximately one-third of the landowners had executed the Amerada and Standard lease, Mr. Peter Cook appeared at a follow-up meeting of citizens who were securing signatures to the lease, and orally offered to take the same form as Amerada and Standard were presenting, but to increase the royalty to 50% of net proceeds. At this time the Council members sponsoring the lease have decided to have the citizens appoint their own Committee, and at a meeting held on January 13, 1943, the property owners elected a Committee to solicit study and recommend the best lease obtainable on city lands.*

*Your Committee immediately notified all operators in the Rio Vista Field including Peter Cook, that a meeting would be held on January 20<sup>th</sup> to discuss and receive written offers. On January 20<sup>th</sup> a meeting was held and Peter Cook and representative of Jergins Oil Company met with your Committee and at the request of Jergins representative a further extension of 10 days within which to submit an offer was granted. Amerada and Standard increased their offer from a 25% royalty basis, to a 50% gross royalty basis, which was later confirmed by letter.*

*Upon the expiration of the 10-day extension, your Committee held another meeting on February 1<sup>st</sup>, and no further offers were received. Your Committee later advised Amerada and Standard that their offer had been accepted and suggested that they proceed with preparation of the lease in final form.*

***This lease provides for a 50% gross royalty, which will be distributed by paying 12-½ % to the landowners and 37-½ % to the City Treasury, with an annual minimum guarantee of \$10,000.***

***Your Committee, after careful study, recommends acceptance of the Amerada and Standard offer for the following reasons:***

***Amerada and Standard have submitted the highest written offer.***

***Amerada and Standard are well able to produce the City's gas from any one or more of the many good wells, which they own and produce in the Rio Vista Gas Field.***

***In view of the above, your Committee respectfully recommends that you accept your Committee's recommendation, and that you execute the Amerada and Standard lease when presented to you.***

***Respectfully yours,***

***(Signed) Howard Heringer  
J. R. Lurtizen  
Irving H. Pearce  
Sabine Tavares  
J.C. Hamilton***

The above lease provided the City of Rio Vista with its first royalty revenue check of \$555.55 (see copy of check below on page 66). It was paid to the city as its dividend from the drilling under its soil. The check written by the Standard Oil Company of California represented the full sum for the period of production from June 22 to June 30 inclusive.<sup>38</sup>

Thereafter, the city and the landowners were regularly paid the royalty. The gas field provides the people with decent incomes. As the town became the operating hub for a multitude of gas exploration, production and service companies and a major center of the natural gas industry, especially for northern California, the whole area remained just like a honeycomb underground with natural gas pipes. The area produces high-value gas with few impurities that gives off a lot of heat when ignited. With the largest reserve of any dry gas field in the state, it has remained one of the outstanding dry fields in the nation. Gas

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<sup>38</sup> River News Herald, August 5, 1943

revenues and royalties flow smoothly to farmers and ranchers – into Rio Vista municipal treasury, providing the funds for almost 40% of the city's general expenses.

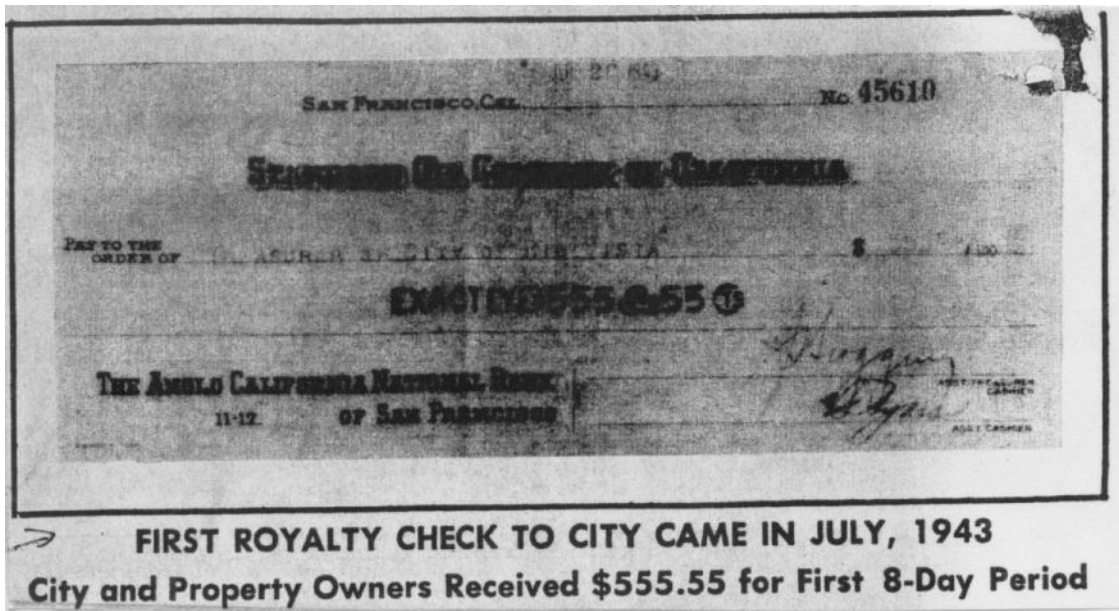


Figure 4.1. First Gas Royalty Check paid to the City of Rio Vista  
**Source:** River News-Herald 75<sup>th</sup> Anniversary Edition, 1965

Since the discovery of the gas fields in Rio Vista, royalties from the gas wells have brought thousands of dollars to a number of farmers and breeders who have been doing very well off of the soil. Before 1952, royalties from leases within the city limits averaged between \$60,000 and \$80,000 a year and might have heavily grown at present time as the total production of Rio Vista gas field rests 15,256,839 mcf and the average price of gas per thousand cubic feet (mcf) as of December 2005 stands at \$6.01<sup>39</sup>.

With only a few of the people living in the community owning the land and having the mineral rights, these gas revenues although significant in the budget of the city, provided little to the citizens. These revenues remain specifically

<sup>39</sup> <http://www.conservation.ca.gov/dog>

important in the economy of the community, as these royalties have enabled the City of Rio Vista to become one of the most progressive municipalities in northern California. The gas field impact on the economy of the area as measured by royalty payments to landowners and the city of Rio Vista, from jobs that employed secretaries, office workers, drillers, roughnecks, truck drivers and skilled personnel, has been tremendous.<sup>40</sup>

## **6. Boom of drilling industries in the Rio Vista Gas Field<sup>41</sup>**

The discovery of the gas in 1936 launched a boom of the drilling industry in Rio Vista. Suddenly a number of companies became interested in the business. Texaco, Superior Oil Company, Standard Oil Company, and Humble Oil and Refining Company and some local individuals all became active in the field. But Pacific Gas and Electric has been the purchaser and distributor of the gas.

The second well was then drilled in the same year on property owned by Perry Anderson. The Taft Drilling Company hired by Standard Oil Company sunk the well in June 1936. Amerada Company once again began the drilling of the third well on the Happe Ranch. This well was named Happe No.1 after two geologists Ralph Arnold of Los Angeles and Harold Boyd of New York City traveled to Rio Vista to inspect the surrounding territory. Many wells began to be drilled. Soon the small town of Rio Vista found itself in the news and the local papers were not spared of the opportunity. All over the country, people would

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<sup>40</sup> River News Herald, 75<sup>th</sup> Anniversary Edition, 1965

<sup>41</sup> See list of companies presently operating in the Rio Vista Gas Field on page 30

hear and read about Rio Vista gas fields. Jobs were created and individuals migrated to the small city. Construction of hotels and new housing began to be erected. The impact was enormous as the production of natural gas energy during 1936-60s was very important to the economy of Rio Vista.<sup>42</sup>

During World War II (WWII), other localities around Rio Vista began to need the gas from Rio Vista. Because the Rio Vista Gas Field was considered the largest gas field region in California, a great volume was pumped.

In 1942, the fields totaled 55 wells and by that time Standard Pacific Gas Line Incorporated had installed a 16-inch line from its terminal in Antioch into the Delta to the east side of Rio Vista's field. Due in part to WWII, the Rio Vista Gas Field became well known and was used to a great extent. The enormous contribution of the gas field was undeniable as it is illustrated in the paragraph of a magazine below:

*"The importance of Rio Vista was accentuated in 1942 when large Stanpac pipe line, which had been bringing daily maximum of 150 million cubic feet of natural gas from the San Joaquin Valley oil fields to northern California industrial plants, was converted as war measure to carry crude oil to San Francisco Bay refineries."<sup>43</sup>*

Production volume since the early years of the discovery has continuously increased as the drilling operation management shifts from one company to the other. The gas production has had social and political impacts on the city since the discovery because the area began to be recognized as a potential gas reserve and economic base for the state of California and would be greatly useful

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<sup>42</sup> River News-Herald & Isleton Journal, 2001

<sup>43</sup> Standard of California, Summer Bulletin Magazine, 1945

to the nation during the Second World War as described in the section that follows. Socially, people began to be interested in the neighborhood. The gas production began to facilitate job opportunities for residents. Consequently, life improved as the natural resource was drilled. However, the people were not taking any measures to prepare for the future and build a lasting and sustainable community that could exist even when the gas resources ran out.

## **7. The gas field production and WWII**

World War II offered the stimulant to developing the Rio Vista Gas field to its maximum because the energy need of the U.S and its allies in 1942. The gas field was developed rapidly during the war and supplied most of the natural gas to the Bay Area which is still its main market.

The US Navy decided that instead of using the oil tankers to carry crude from Estero Bay, an outlet for Kettleman crude, to San Francisco refineries, it would rather use the gas pipeline from Kettleman Hills to the Bay Area. The Navy reasoned that the Rio Vista Field could supply natural gas to the Bay Area, and the crude could be transported through the former pipeline. The top priority was then given to laying transmission lines from the Rio Vista Gas Field to connect with the Bay cities, and necessary requisitions went through for well drilling materials and manpower. The Rio Vista Gas Field made a tremendous contribution to the war effort. At the time, oil was brought to the refineries in the Bay Area in tankers and gas was brought in a 36-inch pipeline. But since the Navy needed the oil tankers to refill its ships spread out over the Pacific, the

bright idea of supplying the Bay Area with Rio Vista gas would be highly welcomed. They, therefore, used the 36-inch pipeline from Kettleman Hills within the Rio Vista Gas Fields to furnish oil and gas needs to the Bay Area, thereby releasing the oil tankers to the Navy. This would accelerate the production and make Rio's fields much more operated. Petroleum authorities then recognized the scope of the field. World War II delivered the market to the Rio Vista Field, and postwar development because of the convenience of natural gas maintained the demand. The field became the major supply source for cities in the Bay Area, northern and central California. During the war the local field supplied 80 % of the gas needed for this area. Since then, it has been a significant supply in an expanding market. However, the hints of WWII would not spare the operations of the new resource discovery, as the production would begin decreasing in 1944 reducing the gas revenues, which affected the city's treasury.

It is important to notice that the city got this first check for gas royalties in the amount of \$555.55 in 1943 after citizens complained to the City Council that gas underlying the city was drained, therefore, the city needed to be compensated. Peter Cook along with other shrewd Rio Vista businessmen negotiated a lease (read above) with oil companies whereby the City of Rio Vista would receive 50 per cent of the gas royalties. It was then estimated that the city would receive approximately twenty thousand dollars (\$20,000) annually from gas royalties from the Asta Construction Company. From 1936 through 1949 the city collected anywhere from \$60,000 to \$80,000 a year in royalties (River News Herald & Isleton Journal 75<sup>th</sup> Anniversary Edition). These royalties made it

possible for the city's tax rate to stay low while still allowing the city to have plenty of money to put forth for street improvements as well as, in 1949, a city pool at a reported cost of \$61,000 <sup>44</sup>. But these undertakings did not stop people's demand for development in the city. Such demands have presently initiated several concerns for the residents.

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<sup>44</sup> Pezzaglia, Phil. July 30, 2003, "Exploring Rio Vista's Past With Phil Pezzaglia: The Rio Vista Swimming Pool – A Town Landmark", River News-Herald & Isleton Journal, Rio Vista, p12

## **Chapter 5**

### **The gas operations in the community**

#### **Part 1: Current issues and conflicts**

##### **1. Gas operation activities and farm lands**

Even though there are complaints about the drilling, it needs to be acknowledged that the gas energy operation activities and farming in Rio Vista have no conflicts. In fact, overall effects for the region [is] negligible (Summers et al., p. 29) but study needs to be done to figure out how much these gas operations affect agricultural labor supplies in the area. Ranchers and farmers continue to ranch and farm, as their activities do not interfere with the gas production operations. Although there are worries about farmers' health and safety issues, many believe that gas drilling and farming activities can be done simultaneously. Certainly the great farmers in the area are the same people who benefit from the gas income, as they own the land and mineral rights. Crops cultivated in the region are predominantly corn, wheat, milo, sunflower, and potato, but they do not hinder the running of the natural gas energy development activities. Nevertheless, people do express their frustrations and concerns about the gas effects on a smaller portion of the agricultural land used in perennial crops, such as asparagus and grape vineyards. Much of the land around the city is permanently managed as pasture and grazed primarily by beef cattle; however, sheep for weed control and stubble reduction grazes land containing field crops seasonally. A major issue is that roads leading to the drilling sites, most often run through these farms which are sometimes made up of nearby gas

wells making the roads and the working environment dangerous for the farmers, their health and safety. But who cares? The gas revenues continue to serve the municipality and are an income supplement many farmers like the Emighs, the Mayhoods and the McCormicks who, despite the gas income they receive, are continuously and intensively involved in the agriculture. In addition, the immense gas reserve that this gas field contains has made it possible for a multitude of companies outside the neighborhood to begin production and control a great part of the gas operations in the community, thus leaving practically no drilling activities in the hands of local landowners or mineral rights holders.

## 2. Outsider control of gas production in Rio Vista

Located in District 6 of the California Oil and Gas District Boundaries (a Division of the California Oil, Gas and Geothermal Resources Department), which extends between Contra Costa, Sacramento and Solano counties, the Rio Vista Gas field remains the largest gas field among all producing great volumes of ***non-associated***<sup>45</sup> natural gas *natural gas produced without oil* (see table below) similar to Elk Hills oil field which continues as the largest ***associated*** gas *natural gas produced with oil*, field in California.

Rio Vista Gas Field operations are the second largest natural gas field operation in the state of California after Bakersfield; it produces more than 3.3 trillion cubic feet to date<sup>46</sup>. The gas field has attracted numerous gas companies since it was launched in 1936. Rio Vista operations account for 10 percent of the

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<sup>45</sup> Non-associated gas is said to be of better quality and immediately usable without going through other processes that associated gas must go through

<sup>46</sup> Calpine documentary of 8/20/2004

natural gas produced in the state and half of the production in Northern California. There are more than 130 production wells associated with the 29,600-acre Rio Vista gas field. Because natural gas has long since been the energy of choice for heating and cooking in our homes, the Rio Vista field is acclaimed for its dry gas. Due to these environmental resource attributes, natural gas is increasingly looked to as an energy source and alternative to coal, oil, diesel, nuclear, and hydropower technologies. It is also considered key for next generation fuel technologies as well as alternative fueled vehicles.

*Table 5.1 - Five Largest Producing Dry Gas Fields in District 6 in 2002\**

| Fields/Year              | 2002 | 2001 | 2000 | 1999 | 1998 |
|--------------------------|------|------|------|------|------|
| Rio Vista Gas            | 27.7 | 18.3 | 14.6 | 11.0 | 10.0 |
| Grimes Gas               | 5.1  | 4.9  | 2.5  | 4.4  | 6.6  |
| Todhunters Lake Gas      | 4.8  | 5.9  | 5.6  | 1.7  | 0.5  |
| Willows-Beehive Bend Gas | 4.7  | 5.4  | 5.5  | 6.3  | 5.6  |
| Lindsey Slough Gas       | 3.2  | 4.7  | 5.0  | 5.6  | 5.0  |

**Source:** California Department of Conservation, Division of Oil, Gas & Geothermal Resources, and 2002 Annual Report, Production in billions of cubic feet

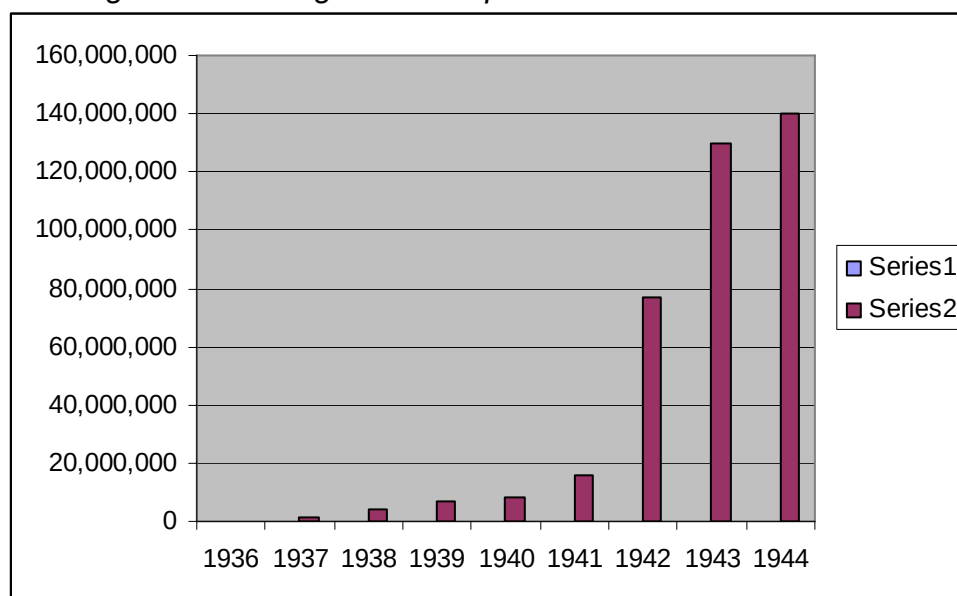
A comparison of Rio Vista Gas field production to those of the other four fields in the chart clearly shows the great volume of dry gas products it offers. From 1998 to 2002, Rio Vista Gas field production has equaled more than half the total production of the remaining four fields in the district. This indeed indicates the potentiality of the field. The Rio Vista land capacity is also demonstrated in the chart below which shows that the field developed rather slowly until the United States became involved in World War II (WWII). It is remarkable to see that the production volume in 1942, just five years after the

discovery, was almost five times the volume of 1941.<sup>47</sup> This exponential increase of the volume of production justifies the interest the US Navy put into the Rio Vista Gas Field supplies. It also proves how abundant the gas is in the area.

*Table 5.2. Volume of gas produced 9 years after the discovery*

| Year            | Volume Produced (Mcf)* | Annual Increase*   |
|-----------------|------------------------|--------------------|
| 1936            | 123,973                | 0                  |
| 1937            | 1,249,948              | 1,125,975          |
| 1938            | 3,799,238              | 2,549,290          |
| 1939            | 6,772,221              | 2,972,983          |
| 1940            | 8,223,070              | 1,450,849          |
| 1941            | 15,805,109             | 7,582,039          |
| 1942            | 76,697,619             | 60,892,510         |
| 1943            | 129,536,559            | 52,838,940         |
| 1944 (11months) | 140,004,408            | 10,467,849         |
| <b>Total</b>    | <b>382,212,145</b>     | <b>139,880,435</b> |

*Figure 5.1. Histogram of the production from 1936 to 1944*



**Sources:** Pezzaglia's old newspaper notes (volume of gas production in thousand cubic feet (Mcf))

Even the average annual increase from 1936 to 1944 indicates a global increase in production for the period of about 36 %. The year 1942 saw a very huge

<sup>47</sup> See Table and histogram above

volume of production of gas compared to the year of discovery. The chart confirms the belief today that a large amount of gas reserve existed in the Rio Vista gas field. It shows the importance of the Rio Vista gas field for the state and the nation during the period of the WWII (see table and histogram on page 75). Although the production chart immediately after the discovery shows an ascendance of the volume produced, the situation today does not present the same trend. Some say that due to the politics of conservation, production nowadays is limited and done in a respected rhythm. It has to be acknowledged that between 1936 and 1944 the newness of the field and the demands of the Second World War contributed to the rapid large volumes produced in the Rio Vista Gas field. The town expanded with residential housing during the two decades following the gas discovery because growth of the population was not as much an issue and also drilling sites were not in the residential areas. Furthermore mineral rights were also not an issue for property purchasers at the time as Rio Vista began to be known as a wealthy small town. It had large incomes for a very small population of whom millionaires were even counted. According to the local information grapevine, whenever land development agents of Rio Vista sold plots of land to incomers who wanted to build or do development activities on it, there has always been an agreement that “mineral rights” to the land belong to the land proprietors.

Today, age of the area’s gas production meets with peoples’ complaints about health and safety issues, environmental laws, conservation strategies and citizen awareness towards the depletion of the natural resources. All these

concerns are making the gas operation business problematic in the neighborhood.

### **3. Operating companies and mineral rights owners<sup>48</sup>**

Ameralda Petroleum Company brought in the first well in the Rio Vista Gas Field. But a number of companies also became active in the field after the discovery of natural gas in Rio Vista. Thus drilling operations have since then shifted from one company to another<sup>49</sup>. Pacific Gas & Electric Company has played a major role in the Rio Vista gas fields because it has been the major purchaser and distributor and has had the pipelines carrying the product to the consumer. The company's office, which used to be on Front Street in Rio Vista, was an important part of the whole picture. With a gas plant in Antioch, a nearby locality, P.G. & E. controls how much gas should be taken.

Although major companies have held most of the best leases for operating in the field, individuals occasionally would come up with money to develop their own well. It takes thousands of dollars to try for a well and there are not many who wish to take that gamble. However, one such individual, Joe Lopes a Portuguese farmer took the risk. He got some friends together to drill on a ranch he had been farming for many years. Joe Lopes was the exception though. For most of the farmers who earned income from the gas royalty payments did not make an attempt. The big companies had the capital to do the drilling on the land and these companies pay the farmers a share. Consequently, the royalty

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<sup>48</sup>California Department of Conservation, Division of Oil, Gas, and Geothermal, website [www.conservation.ca.gov/dog](http://www.conservation.ca.gov/dog)

<sup>49</sup> See IX Section 2. Boom of drilling industries in the Rio Vista Gas Field

percentage<sup>50</sup> to the farmers, though sizable over year time, remains smaller compared to such a deal like the one Lopes had the courage to take. In fact, because of the expansive terrain (between Contra Costa, Sacramento and Solano counties), Rio Vista gas fields have seen so many different operators, more than a dozen different companies including Calpine, which holds the lion share of the leases at present. The list below indicates the various companies that are presently operating in the Rio Vista gas field. These companies have signed leases for operating the gas reserves in the fields with landowners who hold the mineral rights and through those rights lease the land. The diversity of the companies operating in the area demonstrates the attraction that the Rio Vista gas field has had to gas companies all over the US. A great number of them are not locally located or locally owned. There are also many that do not have their roots in the Rio Vista community even though they do offer some employment to a few local residents. The list below shows **companies**<sup>51</sup> presently doing business within the community:

1. Amerada-Hess Corporation [A1700]
2. Amerada-Hess Corporation [A1900]
3. BD & D Company [B0120]
4. **Calpine Natural Gas, L.P. [C1330] \*\*\*\*\***
5. Casex Company [C2700]
6. Chevron Texaco Exploration & Production Company [C56]
7. Enron Oil & Gas Company [E2915]
8. EOG Resources Incorporated [2935]
9. Output Exploration LLC [02292]

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<sup>50</sup> Read XII Section 4. The Community Lease

<sup>51</sup> See [www.conservation.ca.gov/dog](http://www.conservation.ca.gov/dog)

10. Oxy Resources California LLC [02450]
11. Robert A. Cohan [C6760]
12. Romara Energy Incorporated [R4085]
13. Texaco exploration & Production Incorporated, Operations [T17
14. Towne Exploration Company [T3460]
15. Tracy Drilling Corporation [T3500]
16. Tri-Valley Oil & Gas Company [T4500]
17. TXO Production Corporation [T1715]
18. Union Oil Company of California [U0200]

Besides data depicted and provided that when the need arose in the early days for companies that serviced the wells or supplied the drilling operations to operate in the fields, a few local enterprising gentlemen like Joe Lopes, whose drilling attempt we discussed above, stepped up to the challenge and established local businesses to meet the demands and created businesses that remained large employers in the community. Among them were the following: Owens Oil Well Service established in Rio Vista by Len and Jack Owens in 1953; Bruce Service Company established in Rio Vista by Robert Bruce Jr. in 1958; Oil well Materials & Hardware established in Rio Vista by Jack Dole in 1952; Krause Drilling & Service Company established in Rio Vista by Bill Kruse in 1957; Asta Construction Company established in Rio Vista by Roland Lauritzen and Manuel Asta in 1943. Unfortunately, out of all these employers, only Bruce Service, Oil well Materials, and Asta Construction are still presently locally owned companies that continue to operate in the gas business. All the others do not exist anymore. Interestingly, one of the outside-the-community-owned companies, Calpine, is a majority holder of gas leases with the landowners of the Rio Vista Gas Field

today. The following names constitute the list of groups and individuals who own the land and mineral rights, and with whom Calpine<sup>52</sup> has signed leases:

1. A.R. Emigh \*
2. Anderson-McCormick Unit
3. Deterding
4. Detering
5. Drouin
6. E. Drouin
7. E. Mayhood \*
8. Emigh (1998 – 2001)
9. F.H. Deterding
10. J.A. Serpa
11. J. Marks
12. J. Mayhood
13. M.C. Hamilton
14. M. McCormick \*
15. Midland Fee Water Injection
16. Midland WI
17. N. Hamilton
18. Neil Hamilton
19. Perry Anderson \*
20. Reclamation Board
21. Rio Vista State \*
22. RVGU \*
23. Triguero
24. Upham
25. Welch
26. Wilcox
27. Wilcox Community (1997 – 2001)

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<sup>52</sup> California Department of Conservation, Division of Oil, Gas, and Geothermal, website [www.conservation.ca.gov/dog](http://www.conservation.ca.gov/dog)

At the time of this research, only the lessees with an asterisk (\*) at the end of their names or group are said to be still living in the city (interview with Phil Pezzaglia on Sunday November 16, 2003). A majority of these lessees have elected to reside outside the Rio Vista community where the gas royalty revenues they receive from the Rio Vista gas field gas production are spent and utilized. Another issue is that gas royalties have decreased in present days because of the increased number of royalty family heirs or descendants. This decrease has resulted in distribution of small amounts of shares compared to what had been obtained in the earliest and previous years. Also many heirs are currently residing outside Rio Vista, leading to an important part of the money gained from the gas royalty income being spent outside the Rio Vista community. These seemingly ignored facts certainly affect development in and of the neighborhood and reduce the importance and necessity of the gas energy development income to sustain the economy, build the community and promote development in the city.

Development of the community includes such instrumental activities as job creation, infrastructure improvements, and business retention, expansion, and recruitment. It also refers to the social aspects of local life, and emphasizes the enhancement of local problem-solving capacities (Brown and Swanson, 2003, p. 212). As a small town, Rio Vista has the need for jobs, income and social services to contribute to the local well-being. But if the revenues that should generate the income to produce jobs and offer social services are being spent

out of the community, it is very difficult for the city to effectively attend to its citizens' needs.

#### **4. Calpine Natural Gas Company**

Peter Cartwright, who presently occupies the posts of Chairman, Chief Executive Officer and President, founded Calpine in 1984. Cartwright established the company to participate in an emerging independent power industry. The headquarters is located in San Jose, California but the company has other offices all over the U.S. Calpine operates more than 90 power plants in North America and the United Kingdom. The company is a top US geothermal producer; it owns 19 of the 21 power plants at the largest geothermal facility in the US, The Geysers, in northern California. Calpine has 850 MW of generating capacity from these plants. Natural gas is the company's main power source and Calpine controls more than 18,000 MW of capacity through interests in 63 gas-fired plants in the US, Canada, and the UK. In addition, the company has about one trillion cu. ft. equivalent of proved natural gas reserves, and it has gas pipeline interests. The company is publicly traded on the New York Stock Exchange under the symbol CPN and its corporate commitment is governance, safety, health, environment and community involvement.

Calpine has made an unprecedented investment in California's energy infrastructure through the construction and operation of the State's newest, cleanest, and most efficient fleet of power projects. As the State's single largest producer of power from renewable resources, Calpine is also the first company to license and construct a major power project in more than a decade and is

responsible for the first base-load generation built in San Francisco Bay Area in more than 30 years. Since July 2001, Calpine has added almost 2,500 megawatts of new capacity in California, an accomplishment unmatched by any other company in the energy industry. It holds the majority of gas operation leases presently signed with landowners in Rio Vista (See pages 78, 79 & 80 above for details). Since Calpine<sup>53</sup> began acquiring its California natural gas producing properties in Rio Vista in 1997, it has increased gas field production by approximately 150 percent. Calpine has not only offset the 15% annual decline in regional natural gas production, but has managed properties that were producing 40 million cubic feet per day to now producing almost 100 million cubic feet per day<sup>54</sup>. Calpine has drilled 29 new wells and refurbished 70 wells, many of which were simply sitting idle. Since the Company took over the fields from Amerada in 1997, it not only pays millions in royalties to the city and 900 mineral rights leasers in the area, but it also pays millions in taxes to Solano County according to the River News-Herald & Isleton Journal of Wednesday May 19, 2004. Today, due to the initiatives of Calpine, Rio Vista Gas Field produces much more and accounts for 10% of the natural gas produced in California.

The natural gas produced in the area is utilized in a variety of ways, such as electric power generation and residential and commercial uses. With its activities in the largest, cleanest and most efficient fleet of natural gas-fired power plants in the world, and as the nation's largest producer of renewable geothermal energy, Calpine's goal is to help meet the continuing need for clean,

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<sup>53</sup> The Company presently in charge of the gas production in Rio Vista

<sup>54</sup> Calpine documentary of 8/20/2004



Drilling a natural gas well in the Sacramento Valley. Photo by S. Hodgson.

*Figure 5.2. A Natural Gas Drilling Site: Drilling a natural gas well in the Sacramento Valley*

**Source:** California Department of Conservation, Division of Oil, Gas & Geothermal Resources, 2002

efficient and reliable electric power produced in an environmentally responsible manner. Thus, the Rio Vista Gas Field presents all the assets to realize these goals. Calpine power portfolio ranks among the cleanest in the country, as determined by the Natural Resources Defense Council<sup>55</sup>, and has tremendously energized the production in Rio Vista. Drilling equipment has been renovated to improve productivity.

## **5. Analyses of the production table and curve**

The figure on page 84 shows a drilling site but details about this process can be found in the appendix. The table on page 86 and the curve on 87 give the production and analyses of volume of production from 1977 to June 2005. The data was collected in June 2005 from the following website <http://opi.consrv.ca.gov/opi/opi.dll/>. My aim was to compare these volumes of gas energy production to the royalties earned in the Rio Vista community and to find out how these two are related and how these revenues contribute to the building of the community. Unfortunately, I was unable to obtain of the paid royalty data despite all the efforts I made to contact the offices of the Economic Development, the City Council, City Manager, the current Mayor and the office of the Recorder at the Solano County Headquarters in Fairfield. The only document I was able to find on the royalties is seen on the 2005 Solano County Mineral Roll which is in the Appendix from pages 137 to141.

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<sup>55</sup> Caline published leaflet for advertisement of June 2, 2004

*Table 5.3. Rio Vista Gas Fields Production Sum from 1977-2005<sup>56</sup>*

| Year            | Volume of Prod. (Mcf) | Royalty Paid to the City* |
|-----------------|-----------------------|---------------------------|
| 2005 (Jan-June) | 6,778,038             | NA*                       |
| 2004            | 20,346,560            | NA                        |
| 2003            | 31,399,561            | NA                        |
| 2002            | 27,688,826            | NA                        |
| 2001            | 18,270,251            | NA                        |
| 2000            | 14,568,444            | NA                        |
| 1999            | 11,099,505            | NA                        |
| 1998            | 10,116,073            | NA                        |
| 1997 --→        | 11,854,889            | NA                        |
| 1996            | 11,704,090            | NA                        |
| 1995            | 11,032,378            | NA                        |
| 1994            | 10,626,639            | NA                        |
| 1993            | 10,324,047            | NA                        |
| 1992            | 12,855,732            | NA                        |
| 1991            | 15,078,791            | NA                        |
| 1990            | 18,137,135            | NA                        |
| 1989            | 20,326,623            | NA                        |
| 1988            | 22,520,364            | NA                        |
| 1987            | 25,176,870            | NA                        |
| 1986            | 29,165,380            | NA                        |
| 1985            | 29,554,825            | NA                        |
| 1984            | 25,953,797            | NA                        |
| 1983            | 25,504,026            | NA                        |
| 1982            | 26,697,591            | NA                        |
| 1981            | 38,350,952            | NA                        |
| 1980            | 34,106,735            | NA                        |
| 1979            | 38,886,256            | NA                        |
| 1978            | 33,825,928            | NA                        |
| 1977            | 21,449,496            | NA                        |

\* NA= Not Available

All efforts made to gather information about royalty paid to the city were vain but refer to the 2005 Solano County Mineral Roll in Table A1 of the Appendix on page 137 to get an idea about what is being paid as royalty to mineral rights holders.

<sup>56</sup> <http://opi.consrv.ca.gov/opi/opi.dll/>

The curve below, however, demonstrates a very interesting aspect of gas resource viability in Rio Vista and the results would be very well proving if the two variables, volume of production and royalties paid to community, could be followed for some years later to find out the impact of the production on the economy of city.

### **Curve of Gas Production in the Rio Vista Gas Field from 1977 to June 2005**

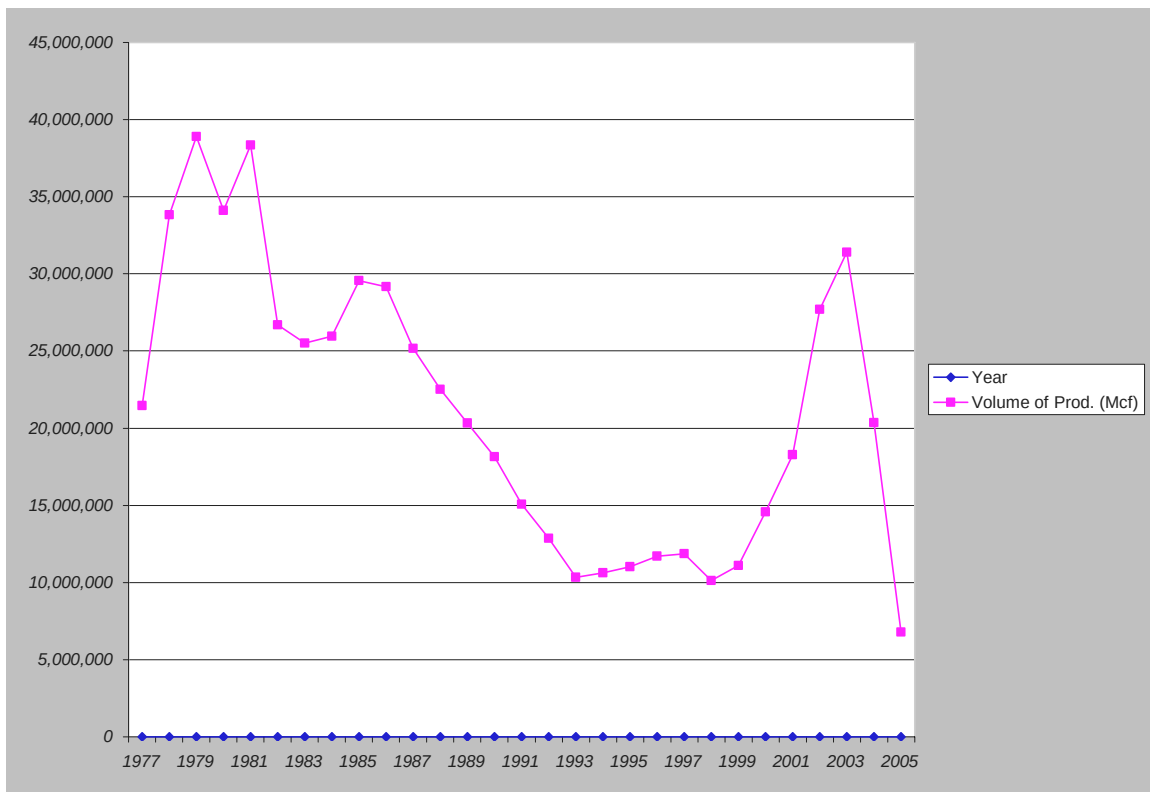


*Figure 5.3. Gas Production Curve from 1977 to June 2005*

*Y= Volume of Production in Millions of thousand cubic feet; X= Year of Production*

The chart above, compared to the production table and histogram on page 75 showing the volumes of production immediately after the discovery, gives reasons for the concerns of residents who believe that the time to invest in other alternative economic opportunities in the area is now. Production at the early stage of drilling was huge. Even the volume of production in 1944 was almost

seven times what was produced in 2004. The two charts demonstrate that the gas resources in the soil of Rio Vista are being depleted.

The production dropped a little bit in between 1982 and 1985. It tended to increase later on within a short period of two to three years. But from 1987 it dramatically decreased till 1997. The increase of production in 1998 as shown in the table on page 86 indicates the impact of Calpine's renovation efforts to improve production as the company got into business in Rio Vista. This entrance is marked by the ascendance of the production curve beginning 1997 as shown above. Also data collected for 2005 was only for the 1<sup>st</sup> quarter of the year and may quadruple by the end of the year.

The curve shows an increase at the beginning, indicating an annual volume of production going over 30 million thousand cubic feet (Mcf) between 1978 and 1981 with very huge volumes of production, almost 40 million Mcf in 1979 and 1981. The production began to decrease in 1982 and even dropped to its lowest level of 10,324,047 thousand cubic feet in 1993. It fell between 12 and 10 million thousand cubic feet from 1993-97. But as it can be noticed on the chart and the curve, Calpine's involvement in 1997 pushed up production to its highest of 30 million thousand plus in 2003 before beginning to drop the following year.

The increased productivity in the gas fields was the result of new innovative engineering and geo-science practices, utilization of modern seismic processing, detailed geophysical analysis, and the introduction of new operational technology to the area. But this does not contradict the reason of the companies that can be noticed in a 2004 interview in which a staff member

indicated that they wanted 'to try to make the most productive use of the resource'. In fact, these innovative techniques and strategies are necessary and indispensable to attain the objectives and goals of the companies. Calpine will do everything possible to maximize production. Inasmuch as many people see the production increase as proof of abundance of resource in the area, they believe it could last for a long time. But the truth is that this resource is going to run out in some years to come and people need not to forget or acknowledge the fact that gas resource is depletive. Frankly speaking, many companies in the fields today are not interested in the future of communities within which they operate. Rather, they strive to take advantage of their opportunities and augment production in order to achieve the maximum profits (read quote of one Roxy Blu in the section entitled intent of revenue generation). As we can see from the table on page 86, production at the present time (Jan-June) is almost 7 million Mcf, meaning that the total by the end of the year 2005 could be around 14 to 15 million<sup>57</sup> Mcf, based my default calculation. Comparing this volume to the volumes of the past three years (2002, 2003 & 2004), we can see that the production volume is diminishing. As a result, the desire of the drilling companies is to rush their activities to drill as much as they can before handing over the depleting gas field to any other entity or company that might be interested in taking over as had been the case between Calpine and its predecessors. But the more the gas resource is drilled, the faster it depletes and the less royalty revenues mineral rights beneficiaries will be earning. After all, it is the responsibility of citizens to look towards the future of their community. Calpine and other operating

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<sup>57</sup> This assumption was made before collecting data shared on page 61 about the 2005 production

companies may continue having all the tools and expertise to minimize problems related to the drilling activities, they may continue having the experience of drilling in a residential zone. However the reality, at present, rests in finding a common ground between the operating company and the local public in order to work together to define strategies for helping the community pull the maximum profit and necessary benefits from the gas activities to enable the city become a better place for all. Even if the conservation strategies are set to slow down the production, there is no way to think that the natural gas energy resource reserve will last forever. It is therefore the obligation of the community to look for other economic avenues that can keep the neighborhood going when the time comes. Today, the City can benefit from the proceeds of the gas to improve existing structures and perhaps develop some alternative business sites that can bring in money. This is the time to seize the opportunity for no one is sure about what the future reserves will bring for generations to come. This is the moment to initiate action and interact with the companies because social interaction gives direction to processes of collective action (Brown and Swanson, 2003, p. 209).

## **6. Growth pressure**

Most rural areas have little experience with land use planning and typically have few growth management ordinances in place. The absence of guidelines and rules tends to generate haphazard patterns of development that can be aesthetically displeasing, aggravate land use conflicts, and create inefficiencies for public service provision (Brown and Swanson, 2003, p. 313). Moreover where

growth pressures are strong, local politics tend to be dominated by a “growth machine” – a loose coalition of pro-growth real estate, business, and civic interests (Logan, Whaley, and Crowder 1997; Molotch 1976). Changes in rural land use can [greatly] affect the economic and social dynamics of rural households and communities (Lobao and Meyer, 2001)<sup>58</sup>. As described by California State Law, the purpose of the Land Use element is to designate “the proposed general distribution and general location and extent of uses of land”. Given this considerable task, the Land Use element has broadcast the scope of General Plan elements and plays a central role in correlating all land use issues into a set of coherent development policies. A city’s land use distribution and patterns are therefore influenced by several factors. These include projected capacity of local and regional infrastructure and services, maintenance of desired service levels, natural and environmental constraints, market opportunities and constraints, social considerations, and physical hazards. Land uses, in addition, are influenced by – and affect – less measurable considerations, including the character and identity of the community. Land use decisions affect many aspects of a community’s health and well-being. They impact the growth and economy pattern of the society. For example, in my interview with Mayor Coglianese on May 13, 2005, she mentioned that “the city does not have the waste water management capacity to sustain a heavy growth in population.” Rio Vista has only two waste plants. However the question is whether additional facilities could be built when growth occurs. Even if these facilities are to be constructed, who

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<sup>58</sup> Brown David L. and Swanson Louis E., 2003, “Challenges for Rural America in the Twenty-First Century”, The Pennsylvania State University Press, University Park, p. 312

will accept to lease its gas reserve land for such developments? Would there not be a gas pipeline underneath the chosen site as had been the case with the moving of the current high school to a new site in order to construct a new big public swimming pool for the community? All these are questions that regularly affect development and the use of land in Rio Vista.

The rate of growth and pattern in which economic and demographic growth occurs can significantly alter the character of a community<sup>59</sup> and are factors and issues that direct development in Rio Vista. Rights that companies obtain for natural resource drilling and operation affect local residents' and land developers' contributions to the improvement and organization of their community.

## **Part 2: Effects and impacts of the gas drilling activities on the community**

### **1. Benefits: Farming**

Natural gas energy development did not take away farm lands but has had some impacts on agricultural activities. As already been mentioned, the gas operations in Rio Vista have launched the construction of roads through the farmlands. These operations have made some of the land difficult to use because of the presence of drilling sites. Rio Vista as its history illustrates, had existed as a small Californian town with its economy based on farming, fishing, levee construction and small-scale business enterprises before discovering gas in 1936. These petty activities sustained the socio-economy life in the community. But with the advent of the gas developments, agriculture in the area

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<sup>59</sup> Rio Vista General Plan 2001, published June 18, 2002, pp 4-1 & 4-2

appears to be overshadowed by the gas developments. Some farmers would like the city to help them get in touch with firms that could use their products, such as sheep wool which needs a market far away from the state. However much more interest is paid to the gas drilling and less attention is given to the farmers. Although this seems to be the case, some individuals who have been earning the gas income still continue to farm their lands. Many, in addition to these royalty income opportunities, are also seeing wind energy being developed on their land. With all these developments, it becomes difficult for one to acknowledge the impact of the gas development on farming in Rio Vista. Of course, ranch farming and related small businesses are still pursued in the community without too many complaints except for a few ranchers who feel that the natural gas energy activities within the community today have minimized the community's interest in and support for ranch farming and its contributions to the city's economy. Ranch farming is longer central to the city's economy as municipal authorities seem not to give it the attention it used to get from them in the past. Also a number of ranchers are believed to be beneficiaries of royalty incomes and therefore might produce less. The overall effects on the agricultural production appear to be negligible (Summers and Selvik, 1982), because the gas operations do not obstruct the use of the land for farming. However, these gas developments give almost no incentives for less committed farmers to grow as many crops as they might otherwise grow.

## 2. Intent of revenue generation

The intent of any given capitalist production company is to maximize production to achieve profits. And this can be seen in most of the gas companies operating in Rio Vista. Natural resource operation activities' occupancy of surfaces where developments intend to be done<sup>60</sup> has created a conflict between residents and operation companies. But as far as most host communities are concerned, challenges usually come up when dealing with how to preserve the rights of the people and how to protect the interests of landowners. Even though resource production companies frequently have their own goals and beliefs, these goals and beliefs at times counteract the needs and necessities of residents, homeowners and land surface users engendering misconceptions for many to rally behind these energy resource operations.

*"We want to try to make the greatest most productive use of it as possible."  
Roxy Blu, Calpine land manager West  
Division was quoted to have said<sup>61</sup>.*

According to the article "The History of the Natural Gas In Rio Vista", written by Kevin L. Jones and which appeared in the River News-Herald & Isleton Journal on Wednesday May 19, 2004, Roxy Blu, land manager of Calpine's West Division indicated that Calpine researchers recently discovered that the gas field has enough reserves to last Calpine another 100 years. Blu was mentioned to have said that the company is working to speed up their intake of 100Mcf to a rate that will deplete the reserves in 25-30 years. Of course the company is set to

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<sup>60</sup> Rio Vista General Plan, 2001

<sup>61</sup> River News-Herald & Isleton Journal, Wednesday May 19, 2004

pull the maximum volume of gas from the Rio Vista gas field before it gets too late for this is a goal that the residents have to be committed to attaining. A Calpine published advertisement leaflet of June 2, 2004 that was part of a Rio Vista Chamber of Commerce monthly news bulletin, stated that Calpine, which took over the field from Amerada in 1997, not only pays millions in royalties to the city of Rio Vista and 900 mineral rights leasers in the area, but also pays millions in taxes each year to Solano County. The same source of information indicated that in the past four years, Calpine has paid \$3.7 million in county taxes with \$1.1 million of that sum being just for 2003. The company also buys millions in goods and services from the local community according to the 2004 article. Most importantly, it employs 41 local residents (a number I tried to verify but could not unfortunately obtain the exact data to confirm it).

### **3. Gas conflicts with the community**

Rio Vista is at a crossroads. It has gained new homes and people due to publicity around its resources, for example the natural gas. Additional needs are being felt but how can they be met?

In the mid-1980s, the city was almost forced to disincorporate after a devastating loss of revenues due to the downturn in the natural gas industry. The City Council then adopted a General Plan Amendment (GPA) in 1990 that expanded the sphere of influence (SOI) and annexed 2,509 acres of open land into the city.<sup>62</sup> The annexation increased the city limits<sup>63</sup>, with a corresponding

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<sup>62</sup> See City of Rio Vista Vicinity Map on page 14

<sup>63</sup> See map on page 14 & General Plan Area: Subdivision Planning Areas on page 16

proposed increase in population to 24,500 in 2005<sup>64</sup> and the idea of developing some economic avenues for institutions to come in. Although such was the plan and estimation, today in 2005, the population still remains under the margin of 10,000 with most of the median age still looking for places to work and call home. Having one's own job and home, and crafting their immediate surroundings makes one more confident and self-fulfilled. It also helps satisfy the fundamental human need to be in control of one's own environment. Nevertheless the little population growth that the city has achieved has made the cost of living difficult to afford for the majority of people, creating a sort of displeasure towards new entrances whereas such entrances were expected to help shape the neighborhood. Helping shape one's neighborhood with other members improves societies' involvement, relationship and ability to work together and strengthens the community. Involvement generates participation, creates communication and leads to understanding, which in turns encourages the ability to act, both individually and collectively. The most obvious effect is that people take pride in their surroundings (Wates and Knevitt, 1987). And all these sum up the needs and realities about current issues between residents and gas drilling companies in Rio Vista. Although residents feel proudly linked to the gas energy development activities in the neighborhood, they seem not satisfied with how the gas operations are being handled in their community. The natural gas operations have, in certain ways, not met their expectations but have created some anxieties. Knowing that the field is not inexhaustible, efforts are being made to conserve it. "Rated" as it is termed by the operating industries, the reserve is

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<sup>64</sup> Rio Vista General Plan 2001, published July 18,2002

managed through the “Little Inch” gas line from Texas to Milipitas in California that has been enabling P.G. & E. to bring in 400,000,000 cubic feet a day. This initiative has served to conserve the gas field. But how long can gas resources be kept in the soil of the neighborhood?

In most cases, wherever large deposits of natural gas have been discovered they have been accompanied by like deposits of petroleum. And with that in mind, many companies have made geological surveys of the area, and operating companies have eagerly watched their drill cores to form some signs of petroleum to see the land being marked with scattered drilling sites. Though many drilling companies may challenge the fact, natural resource production projects do come with high economic opportunity costs to local people. They jeopardize prospects for other future economic endeavors when local communities are undermined with existing energy development or the advent of a new development project. Perhaps Rio Vista’s fishing waters may not be polluted. But the fact is that pipelines are being built underground with production stations and scattered wells imperiling community development and the viability of emerging economic alternatives for the city. This can be noticed in the area’s sustainable land management, ecotourism, and diversified agricultural production. For example, the Rio Vista Foundation is having hard time to building a new swimming pool for the city because land proposed for site is under-constructed by gas pipelines.

Natural gas production in and around Rio Vista might have long been a foundation of the local economy. However, recent diversification and introduction

of new economic development initiatives have indicated the need for developing and creating other businesses to supplement the gas production benefits even though the natural gas industry remains an important contributor to local tax coffers and a primary income producer for the people and purchaser of local goods and services. One Calpine, newsletter published in June 2, 2004, states that the City of Rio Vista is currently receiving over \$600,000 per year in royalty income and will receive \$4 million over the next 10 years. But can this income alleviate the problems being generated?

#### **4. Effects on businesses: from 1936 to present**

Today, due to the natural gas energy resource development activities in the area, population growth in the neighborhood rests slow while shopping malls, big provision stores and bookstores remain lacking. At present time, the city enjoys only the presence of one grocery shopping center (Lira's) which is owned by Jim Lira. The unique store serves the whole community with their provisions and groceries. It is the only place where the people go to make their purchases for their primary and daily needs as well as their other necessary provisions. It enjoys the services of one Ace hardware store and two financial institutions: Bank of Rio Vista and Bank of Stockton. The city also has two car dealer shops, some restaurants and bars, one police station, a fire department, one drug store, one library, and a few real estates businesses and other small-scale businesses. Both the police and fire stations provide services for the population on problems of security and emergency, accidents, disasters and health issues. But these

facilities appear to be overwhelmed by the services they are called to give. It is said that the fire department has been called into duty at Trilogy residential community where almost every resident seems to be a senior citizen or advanced in age, at least once every three days. This institution is not much staffed and depends on volunteers for most of its services. And because there are not many economic activities to attract and retain people in the community it is very difficult for institutions to develop in the area.

|              | <b>Business</b>                | <b>1936<sup>65</sup></b> | <b>1945</b> | <b>1956</b> | <b>2005</b> |
|--------------|--------------------------------|--------------------------|-------------|-------------|-------------|
| 1            | Auto Dealers                   | 2                        | 3           | 3           | 2           |
| 2            | Bakery                         | 1                        | 1           | 1           | 1           |
| 3            | Banks                          | 2                        | 2           | 2           | 2           |
| 4            | Beauty Parlors                 | 2                        | 2           | 2           | 2           |
| 5            | Clothing                       | 0                        | 4           | 4           | 1           |
| 6            | Contractors & Construction Co. | 0                        | 0           | 5           | 1           |
| 7            | Dentist                        | 2                        | 1           | 2           | 4           |
| 8            | Doctors                        | 0                        | 0           | 3           | 1           |
| 9            | Electrician                    | 1                        | 0           | 0           | NA          |
| 10           | Floor & Window-coverings       | 0                        | 1           | 0           | 1           |
| 11           | Funeral Home                   | 1                        | 1           | 1           | 1           |
| 12           | Groceries                      | 3                        | 4           | 5           | 1           |
| 13           | Hotels                         | 3                        | 3           | 2           | 2           |
| 14           | Ice Cream Parlors              | 3                        | 0           | 0           | 0           |
| 15           | Insurance & Real Estate        | 1                        | 4           | 5           | 6           |
| 16           | Laundry                        | 1                        | 1           | 1           | 0           |
| 17           | Lumber & Building Materials    | 2                        | 2           | 4           | 1           |
| 18           | Newspapers                     | 2                        | 1           | 2           | 1           |
| 19           | Pharmacy                       | 1                        | 2           | 2           | 1           |
| 20           | Restaurants                    | NA                       | NA          | 7           | 10          |
| 21           | Service Stations               | 2                        | 2           | 4           | 3           |
| 22           | Theatre                        | 1                        | 1           | 1           | 0           |
| 23           | Variety Stores                 | 0                        | 0           | 3           | 0           |
| <b>Total</b> |                                | <b>30</b>                | <b>34</b>   | <b>57</b>   | <b>41</b>   |

Table 5.4. *Business in the City of Rio Vista*

Indeed, many of Trilogy residents I talked to confirmed that they most often go to Lodi or Fairfield to do their shopping and make most of their big

<sup>65</sup> River News-Herald & Isleton Journal, Wednesday, June 6 2001

purchases. Almost half-a-century since the city became funded by gas, only a handful of businesses have grown in the city as shown in the preceding table. Even some of the businesses that existed in the past or had recently entered the community have disappeared. Businesses like the movie theatre and laundry services are gone. With a population of almost 7,000 inhabitants, Rio Vista, at the present time, enjoys the services of a very low number of businesses that can be counted on one hand. But in fact, this is typical of other small rural communities.

The Calpine gas company, according to its 2004 information, purchased \$7 million and \$11 million respectively in goods and services from local businesses in 2002 and 2003. Purchasing goods from local firms is quite a positive step in the community's enhancement. But does this mean that these revenues completely solve the problems and satisfy the needs of the community? An evaluation and comparison of businesses created in town since the early days of gas discovery to today and presented in the table on page 99 above demonstrates and supports the statistics and arguments for creating alternative sources of income in the community.

In 1936, when natural gas was discovered, the town had, among its businesses just a few small-scale entities. Almost ten years later, in 1945, after the start of gas drilling activities, only some existing business districts gained numbers in new establishments. The majority of businesses remained intact with no improvement while others even saw their number reduced, the cause of which may have been WWII and its consequences. In 1956 when the Second World

War was over, some businesses that did not exist in the past became part of the business district of the city. Restaurants were built to serve residents, travelers and visitors to the town. The lumber and building material businesses also saw growth and development with about 5 stores being established in the city. The real estate business also grew. These facts indicate that gas development has had impacts on the community. It has made the neighborhood known and the city an interesting place for newcomers who have begun to live in the area.

## 5. Problem of population growth

*Table 5.5. 2005 Census Data: City of Rio Vista*

| <b>AGE</b>        | <b>Population</b> | <b>Percentage</b> |
|-------------------|-------------------|-------------------|
| Under 5 years     | 299               | 6.5%              |
| 5 to 17 years     | 842               | 18.4%             |
| 18 to 64 years    | 2,529             | 55.3%             |
| 65 years and over | 901               | 19.7%             |
| Median age        | 40.7              | X                 |

**Source:** Solano County Home Website: <http://census.abag.ca.gov/cities/RioVista.htm>, June 2005

*Table 5.6. 2005 Census Data: Solano County*

| <b>AGE</b>        | <b>Population</b> | <b>Percentage</b> |
|-------------------|-------------------|-------------------|
| Under 5 years     | 28,694            | 7.3%              |
| 5 to 17 years     | 83,068            | 21.0%             |
| 18 to 64 years    | 245,264           | 62.2%             |
| 65 years and over | 37,426            | 9.5%              |
| Median age        | 33.9              | X                 |

**Source:** Solano County Home Website: <http://census.abag.ca.gov/counties/SolanoCounty.htm>, June 2005

Table 5.4 above shows the Census of Rio Vista in 2000 illustrates for the same year 2000, the Census of Solano County within which the City of Rio Vista is located. Out of the 394,452 inhabitants that were counted the county which is comprised of seven major cities (Benicia, Dixon, Fairfield, Rio Vista, Suisun City, Vacaville and Vallejo), Rio Vista held just about 1.2% of the total with a median age group higher than that of the county. Also the percentage of the population aged 65 years and over is almost double that of the county when compared to the total county population count. This indicates our concern about the burden of social services that await the city.

Table 5.5 on page 101 showcases the age group of 18 to 64 years which comprises the majority of the residents and to date the trend of welcoming the aged into the neighborhood appears to have not changed because it fits into the policy of residential housing development companies. Paradoxically among this majority, it is the people over 55 years of age who dominate the population making the workforce of the area slim and barely existing. The majority of Rio Vistans, mainly the aged and retirees, hate to see developments, such as those that took place in Antioch and Pittsburg happen in the city. They prefer to live in a small city where crime is limited so that they can enjoy their retirement. In fact, many residents moved to the city to get away from the industrial and population sprawls of their cities. As Frank Vitalie, who sometime ago operated the Collinsville Resort indicated, "This is the last frontier on the river. I'll stay here till the last dog is hung".<sup>66</sup> All these arguments are not to proclaim that Rio Vista should not accept seniors into its community. These seniors are assets to the

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<sup>66</sup> San Francisco Chronicle of March 8, 1976, p. 4, article entitled "Big Boom and the Little Town"

neighborhood as they bring in their wealth and money to spend. However, the major concern of ours is how to find ways to develop socio-economically the community so that residents can enjoy the beautiful nature of area and friendly small town atmosphere that reigns in the city regardless of the gas drilling operations.

Levels of population growth resulting from energy development have been substantial and are likely to increase in the future. These levels of growth, which are necessary for the development of the community, are sufficient to create [social, political and economic] management problems (Summers and Selvik, p. 27) and this is what most residents in Rio Vista are against.

## **6. Small town feelings**

The resurgence of urban-to-rural migration in the early 1990s combined with heightened economic stress in traditional rural economic sectors has generated increased conflict between those who seek to preserve the rural character of these areas and those who want to take advantage of the economic opportunities that the new types of rural growth provide (Brown and Swanson, 2003, p. 305).

On May 13, 2005 when outgoing Mayor of the City of Rio Vista, Marci Coglianese offered me the opportunity to interview her, we discussed the "old Rio Vista" vs. the "new Rio Vista." During our interaction, she observed, "there are some culture clashes between the newcomers and the old timers". She characterized the "old Rio Vista" as a town where people don't complain publicly

about their neighbors or "make waves." They generally believe that property rights should prevail over environmental concerns. They are politically conservative, don't like change and would prefer that Rio Vista remain a small town. And because change has been so slow to reach Rio Vista (so far they just have two new subdivisions)<sup>67</sup>, they don't yet have a sense that what is happening here [in the City of Rio Vista] is the same as the rapid sprawling residential growth underway elsewhere in the region."

Indeed, although there is presently a lack of socio-cultural amenities due to the slow growth, residents still believe in the culture of keeping the city a small town. Even though many believe that the culture is changing with the growth of the city, development within the area does not support the fact as the city today has abandoned establishments like the big Rio Vista Hotel, sitting at the junction of Main Street and Second Street in the downtown area. This infrastructure can be renovated for some economic activities to take place in it and bring in revenues.

According to a Fairfield-Suisun daily newspaper, when Max and Pat Kistler decided to move from Pleasanton to a retirement community some years ago, they chose Rio Vista, as did many of the residents at Trilogy. "We looked at several communities and Rio Vista seemed like a nice little town", said Max Kistler.<sup>68</sup> Despite the growth that the people who have moved to Rio Vista represent, Rio Vista has maintained its aura of a sleepy riverside town where people know each other and feel safe. "I like the rural atmosphere and friendly

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<sup>67</sup> The two subdivisions are: Trilogy and Homecoming

<sup>68</sup> Rowena Lugtu-Shaddox, article on Rio Vista in the Daily Republic of Fairfield-Suisun, Sunday July 21, 2002, front page

people. They also have a good library and it's nice to live near the river", added his wife, Pat Kistler. Indeed, small towns are very proud of their identities [and they do everything to keep these identities] (Weber and Howell, 1982, p. 130).

"We enjoy the feeling of everyone knowing everyone. With the building of Trilogy retirement community, everyone moved in at once", said Mayor Coglianese. But "as you know, in established neighborhoods, when someone moves in there's [always] an adjustment period", she added. Coming from Fairfield where Mayor Coglianese served as the city's Assistant Attorney, she understands what the rapid growth of population within an already established smaller community brings. Improving neighborhoods, developing residential housing, creating new businesses and providing a better landscape for the people's security and health demand a solid partnership, mutual communication and understanding among the various institutions and people, actors of the community's life. These are the community building initiatives that production companies and individual groups working within the Rio Vista community need to adopt and engage in to settle any differences that may surge to handicap development in the area. Because Trilogy is such a new subdivision, the majority of the homeowners are all new to the Rio Vista area and they knew very little about the history of the city as only a handful of residents, from the existing section of the city purchased homes in the Trilogy subdivision. The population growth that occurred rather quickly following the subdivision establishment, in comparison to Rio Vista's previous expansions, might have also troubled social

alliances of the lifelong residents, creating different perceptions of the community as well as generating varied ideas for the future development of and in the city.

## **7. Gas companies versus the people**

The battle of *mineral* and *surface rights* requires intensive communication, participation and mutual cooperation between individuals and parties that are involved in resource extraction and drilling. Most often citizens and companies, who deal in land leasing and land owning, do not understand the depth of contracts that they signed. This should be corrected as it creates lots of animosity between parties. Contracts must be well defined and clarified to better understand the obligations of each party. This cannot be done without collaboration of the parties, the only way to improve community life and alleviate social hardships that occur during oil and gas production. Companies must look forward to working together with residents and understanding their frustrations regarding natural resource drilling and extracting operations.

Before Calpine acquired the leases<sup>69</sup> to the Rio Vista Gas Unit in 1998 and 1999, gas production in the Rio Vista Field existed. Specific mineral rights and leases were recorded in the books of the counties and gas fields in the area were extended enlarging property size of gas right holders and landowners.

In the years from 1966-78, there were quite a number of millionaires per capita in Rio Vista. They were owners of the land on which the gas production operations were carried. These people earned grand royalty revenues from

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<sup>69</sup> See list of lessees with whom Calpine has signed gas leases to operate in Rio Vista Gas Field on page 30

property tax rates, which at the time, was the main source of revenue for the economy of the city.

By the mid-1980's the city hit a wall and fell into a financial crisis after the introduction of Proposition 13. Dubbed a political earthquake when it passed, later viewed as the first shot of the 1980s Reagan Revolution and passed by 65% of voters in 1978, proposition 13 is a constitutional amendment that reduced property tax rates by 57% and resulted in a dramatic reduction in the amount of local property tax revenue available for cities, counties, and especially for schools. Prop 13 rolled back property assessments to their 1976 values and limited property taxes to 1% of the assessed value. It also limited property valuation increases to 2% per year unless the property was sold. In addition, Proposition 13 required that all state tax rate increases be approved by a two-thirds vote of the legislature and that local tax rates be approved by a two-thirds vote of the people.<sup>70</sup> This greatly affected Rio Vista but the city did not appeal to the county to find solutions to its problems. The city could not rely on gas revenues any more because the property value was devaluated. A Fairfield financial agency was hired to look at the books in order to manage the finances of the city. This undertaking would impact subsequent developments and bring up questions about what the value of gas revenues is for the city.

While there was the necessity to improve the economy, there was also the feeling of not losing the small community atmosphere that reigned in the neighborhood.

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<sup>70</sup> The Special Challenge of Proposition 13, The Merrow Report

Of course, one can never deny the involvement of the city council and people to maintain this quality. They have been taking the necessary actions and seizing opportunities to remedy the situation of the tax shortfall. Among these initiatives are building business structures to attract new businesses, maintaining old existing economic institutions, building more residential housing units and infrastructure to improve the social and economic life of the people and bringing into the city other businesses while at the same time keeping the town a small one in size.<sup>71</sup> All these tasks remain a big challenge to the people and demand a commitment from the whole community. It is to that extent that economic and community development meetings are being held from time to time to discuss strategies and solutions. Ways and means to attain these goals are being looked at by the authorities involved in these undertakings. In many of the municipality's economic development projects, a number of initiatives are thought necessary to be adopted to attain the objectives. Clearing, protecting and developing the industrial park and building it into a nice business center is one of the suggested solutions. Maintaining and improving the city's health system is another. Clean, beautify and develop the riverfront space and create incentives to attract businesses, businessmen and women are all ideas and propositions that are being elaborated on to achieve the purpose of economic development in the community (Rio Vista Chamber of Commerce's Riverfront Enhancement Project Document).

Such enterprises could certainly enhance development in the community if realized. But the question remains to how to accomplish the above-mentioned

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<sup>71</sup> Rio Vista General Plan, 2001

goals in order to solve the various problems of development in the community. These propositions of ideas and actions may certainly help attract business but will they be sufficient endeavors to reduce the worries about and anxieties of seeing the neighborhood establishing and developing socio-economic measures and facilities that can improve the living standard of the people within the city? Gas drilling problems however still exist with no lasting solution being identified to solve them. And the truth is that as the gas industry makes Rio Vista a renowned and interesting place to live, it consequently exposes the community and its environment to difficulties.

During the late 1980's the city council entertained ideas for ways of bringing money, job opportunities, and other activities into the community. The idea of building a prison outside of town was briefly looked into. But it was met with overwhelming opposition from the community. Afterwards the idea of a "Card Room" gambling facility was also presented to the city. This idea also met with opposition. In 1990, however, a small subdivision called "River County Estates" by Alexander Development Corporation was finally approved and began to be built in the city. This development offering three model homes ranging from 1830 Sq. Ft. to 2246 Sq. Ft., offered homes from \$181,950.00 to \$206,950.00. While this was a very small scale expansion, it was what Rio Vista had expected and experienced in the past. Therefore the town's people could adjust to the project easily. A few years later Trilogy and Homecoming would break ground; however with those two developments, which were on a larger scale than Rio

Vista had encountered before, the community would find it harder to cope with the rise in population, which would be made up of outsiders.

As people began to know about the city, the population began to grow and people began to think about putting in place some housing developments to accommodate the new residents who were coming into the town. More land development projects for housing therefore came into existence. Homecoming started followed by Shea Homes developers who initiated the Trilogy apartment project, which about 8 years ago, was built to house adult retirees who are over 55 years of age. Majority of these retirees are from the Bay Area and are people who have once owned homes in other places where such homes were sold. They are now owners of houses in the beautiful Trilogy residential homes complex in Rio Vista and do not want to see any gas activity going on within their housing community.

## Chapter 6

### Current Difficulties

#### 1. Case Study: Calpine against Shea Homes (Trilogy)

Expectations of local residents about the economic impact that [accompanies] energy development seems to ignore the negative aspects of the boom (Weber and Howell, 1982, p. 123). Several studies have found that most people, when they heard about an energy project entering the community, believed the boom would bring a wave of prosperity in which everyone would benefit (Little, 1975; Cortese and Jones, 1977; Little and Lovejoy, 1979). People disregard the fact that it is only those involved in the energy business that experience the economic benefits and that these benefits are not distributed evenly and are not without costs.

According to sources, when Trilogy was envisioned, the developer, Blackhawk, (Shea Homes predecessor) and the landowner, Mark's Ranch, and the natural gas leaseholder, Amerada-Hess, (Calpine's predecessor) worked out an "Accommodation Agreement" allowing for the Trilogy development to proceed. The agreement, as said in the Calpine document, was necessary because land regulations in California make mineral rights take precedence over surface rights. Therefore "without an agreement specifically spelling out where and how the natural gas deposits would be accessed, Trilogy could not have been built", the document argued.

The Accommodation Agreement is said to be available through the Home Owners Association and specifies the mitigation procedures envisioned at the

time of its drafting (such as landscaping, the rights-of-way required, and the access agreements necessary to attain the natural gas). Furthermore the Agreement specifies Trilogy as being responsible for the outlined mitigation as well as requiring cooperation on the part of the development and its residents. Many Trilogy residents however, believe this cooperation does not exist.

The Trilogy residential housing development sits upon the single largest dry gas field in California, of which Calpine is the primary producer. Calpine got access to the land when its predecessor, Amerada-Hess Corporation handed over the mineral rights and the land lease to them after their purchase in 1997. Calpine's priority then was to "make the most productive use of the field". Its intention was to drill within the Trilogy residential area which contains five existing wells on which Calpine was considering doing maintenance<sup>72</sup>. This maintenance, however, was not welcomed by the members of the Trilogy Homeowners Association who manifested their concerns about any new installation of gas wells or any gas operation activities within their neighborhood.

In fact, in November 2003, the River News-Herald & Isleton Journal carried a report saying that Calpine was planning on installing 11 new gas wells in Trilogy and that some possible sites that were being inspected were Trilogy's front entrance (see Figures 6.1 and 6.2 on pages 117 and 118), and another one was even on the community golf course. Though Trilogy residents were outspoken in their disapproval of drilling around their homes, there was nothing that could be done to stop it. Currently the case is still pending as the homeowners association of Trilogy insists on its disapproval to give the go ahead

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<sup>72</sup> See Appendix for the explanation of "maintenance"

to Calpine<sup>73</sup>. The company, unfortunately, has not applied for specific permits to undertake activities within the Trilogy residential housing development at this time although it owns the leases on the land. In fact, the problem has engendered hot debates within the community and has even got the City Council involved. Matters are being discussed and many expect good results.

A number of questions remain to be answered by all the parties involved as all these developments go on. Some city residents, who do not live in the Trilogy community and are also concerned about this issue, said that the new residents knew well that one day the marked gas sites would be operated. Many even indicated that it is for those future drilling reasons that places like the golf course and the main entrance of the housing development did not see any sophisticated structures on them. If this is true then why is the housing association complaining? Why should they bother to buy homes in an environment that will be a hazard to their safety, health and well-being in the future? Why should Shea Homes have even agreed to develop residential houses on the land?

Supposing that details about all these arguments were indeed marked in the residential agreements, then there should not be any complaint on the part of the homeowners for they ought to have discussed and argued these points before purchasing their homes. Unless the document said something different from what had been presented to them, there is no reason to blame the residents.

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<sup>73</sup> River News-Herald & Isleton Journal, Wednesday May 19, 2004

On the part of Calpine, it is believed that with their decades of experience in the gas energy drilling business, they would have known much about how to carry out their activities within residential areas. If they do then it would be up to them to negotiate the deal with the residents and come up with strategies and plans for realizing the project with the agreement and understanding of both the company and the Trilogy community. However, such negotiation could not be successful if all parties including the City of Rio Vista and Shea Homes do not come to a consensus and terms of agreement. If not, Vineyard Bluffs, the other housing project, may also hit the wall of disagreements going on between Calpine and the residents. These executive types of home are believed to have somehow resolved partially the residential housing problems in the community.

Anyone who might have visited Rio Vista and its impeccable Trilogy residential subdivision would surely admire the look and beauty of the landscape. But when talking to a resident of Trilogy about the natural gas operation activities within their neighborhood, a person hears the frustrations and comments about the gas drilling operations. Whoever has been into the community or talked to a resident about it or has once attended any of the City Council's routine community development meetings on topics regarding the natural gas energy operation and its related subjects on how to develop the proposed industrial land or park for commercial use and residential housing developments would admit to have at least heard of the term: **N-I-M-B-Y**, meaning "**Never/Not In My Back Yard**". Indeed, this is a common term used by homeowners who are against the construction of new drilling sites near their backyards or in residential areas.

Natural gas operation activities have indeed generated lots of frustration particularly among newly established residents. According to sources, these individuals might have heard about the potential drilling sites before moving into Trilogy.

Whatever the residential and commercial housing needs in the city, they must be provided while preserving the identity of the community. Because the socio-economic needs of the people have made the gas industry operations a huge challenge to the city council, the community and the companies. They have created arguments between both landowners and developers, and between both homeowners and the gas drilling companies that operate in the area. Such is the conflict between residents of the beautiful Trilogy Senior Homes and Calpine. Thus while drilling by various companies takes place on vacant land around the residential area, Trilogy residents keep a close eye on the gas wells they build and snap photographs whenever they see something they think is amiss. Even if the bocce ball court and the subdivision's waterfall entrance feature (see Figure 6.2 on page 118) are said to be pre-designated drilling sites as Calpine Natural Gas Company claims the right under an agreement struck with the developer before Trilogy got built<sup>74</sup>, it is through mutual collaboration and understanding, cooperation and interaction, participation and all parties involvement that the issue could be solved. Many residents believe that the gas energy development is creating them problems. "We know more about gas now than we ever dreamed we would", said Judy Calpo, who moved into the beautiful Trilogy senior community residential housing in Rio Vista a few years ago.

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<sup>74</sup> Fairfield-Suisun City Daily Republic, On-line Edition articles of April 12, 2004

The palm trees, stucco homes and sprawling golf course at Trilogy give the wrong idea about the area's heritage. This Sacramento River city is a natural gas country and the prospect has spurred the resource awakening in the new residential subdivision area. Companies<sup>75</sup> for decades have drilled for the same natural gas that seems to create problems in the city and that many people use to heat their homes. As the industry operations bring gas drilling sites close to home, within a few hundred feet, the majority of the residents continuously worry about their rights to owning the dwellings. But nothing can be done to conceal the drilling for it is the heart of the city's economy. Rio Vista's natural gas industry and the growth boom that has created such subdivisions like Trilogy are intertwined. Gas drilling could possibly take place at sites within existing subdivisions. As Berry Eberling said in his paper, "Gas grounds – Community keeping an eye out as natural gas industry moves into their back yard", a natural gas well could become as familiar in the newly developed suburbs as a neighborhood swimming pool. While this residential gas drilling issue is causing some real heartache for people, residents at Trilogy, in particular, have become the natural gas watchdogs. They are spending part of their golden years doing research on the Internet, contacting state officials, lobbying county and city officials and advancing their cause. In fact, the natural gas fields that had been the city's longtime savior and economic booster had become a hindrance to its community development. Amerada-Hess has had mineral rights to almost every piece of land the city could build on and this has become a barrier to traverse.

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<sup>75</sup> See list of companies that have drilled for gas in the Rio Vista Gas Fields



*Figure 6.1. Entrance of Trilogy (Residential Community in Rio Vista)*

**Source:** Tometi Koku Gbedema photos, Main entrance of Trilogy, 06/03/05

This problem is lingering the development of the community and the city needs the people and companies' cooperation to resolve the difficulties and achieve some improvements in its community building.

Talks must be held to define strategies and design plans for producing the gas for as a past Mayor of the City of Rio Vista mentioned during my interview with her on May 13, 2005, "the city would not be what it is today without the gas". Gas fields made the city rich. They made it possible for all those newcomers who came in to enjoy the great features at Trilogy. However there is still much more work to be done to improve social life and satisfy the residents. Efforts to integrate newcomers into the existing social structure of the community must attempt to provide an awareness of "who's who" among longtime residents and their organizations.



*Figure 6.2. Waterfall Entrance at Trilogy (Rio Vista)*

**Source:** Photo by Tometi Koku Gbedema showing the waterfall entrance, 06/03/05

Efforts must also be made to preserve community identity and community pride without ignoring the very real problems that exist or finding scapegoats for problems that are not anybody's fault (Weber and Howell, 1982, p. 131). In fact, for about 8 to 9 years now the city has been developing a housing project named "Homecoming" which is designated for first time affordable housing homebuyers. Many of these homes have already been resold in this short period of time. These new developments have changed the prices of houses and housing rent in the Rio Vista community. Despite the low population growth that these housing developments bring, the community still remains small as compared to most of the neighboring cities. Crime in the city is said to be minimal. As far as recreational facilities are concerned, the city is very lucky to have baseball fields for Little League, football and soccer fields, a very nice golf course at Trilogy,

basketball and volleyball courts. It also has middle and high schools where most of the kids go. However it has few job opportunities to retain some of the youth in the community. Gone are the movie theaters, bowling alley, clothing stores, 5 & 10 provisions stores, which were a staple in the community for many years.

Twenty-five years ago, according to information, the town had a smaller population, but somehow had many more businesses downtown, all of which provided enough income for the owners and employees to make a decent living. But many do not exist today. Windsurfing is one of the sports activities that most people come to Rio Vista to do. However a decline has been seen in this sport in recent years as the participants became more responsible for family obligations. Because of its river-view, many tourists often plan a stopover in Rio Vista to see the beauty of the Sacramento River and most importantly to surf. For over a hundred years now, Rio Vista has been celebrating the Portuguese Holy Ghost Festival, which is also a popular event and often held in August of every year. The Bass Festival/Derby organized by the Rio Vista Chamber of Commerce and celebrated during the first weekend of October is one festival that brings thousands of visitors to the small historic city of Rio Vista. There is always a parade and fishing derby during which participants registered for the fishing competition catch the biggest bass to win a grand prize that most often includes a fishing boat. This festival is highly rated among the activities in Rio Vista. It annually attracts a great number of visitors to the city. Another event that brings outsiders into the community is the Harvest Festival that takes place in October.

This is organized by Congregational Churches and it has been going on since the 1870s.

These activities expose the city as small wealthy community but with issues related to its gas development. They of course, reveal its potentiality, richness, attractive features and pleasant weather conditions.

## **2. Immediate concerns for Rio Vistans**

Unlike other townships in Solano County, Rio Vista has no large chain “superstores” on the edge of town. The downtown core appears to be dying and deserted with an unending series of housing tracts with little to distinguish them from each other except for entries that reveal the name of whatever natural or historic feature the tract replaced (Rio Vista General Plan 2001). Agriculture, manufacturing and tourism now play the important role of creating jobs and commerce in the city. The community’s dependence on the natural gas industry has been greatly reduced due to the diminishing gas field and all the problems it has incurred. No longer is Rio Vista a central port for agricultural goods. It has become a small town with big a name and “plenty of gas resources”, they say. It is a center for popular recreational activities. Recreational boating thrives, as the city becomes a place for windsurfing. Gas energy production related difficulties are faced and steps have been taken to address them in the regular economic development meetings held in the city. However no decisions have been made and no concrete actions have been initiated to assault the problems.

The charming appearance of the town, picturesquely sloping up from the Sacramento River banks, remains a cause of pride for the citizens. This is an asset that all would like to see the municipality and the community to capitalize on to maintain the city's identity. Realizing the proposed project work of the city's waterfront development would purposefully attract and bring in more interested businesses. That in turn, would enable the youth and the residents to secure jobs and stay local instead of moving out of the neighborhood. Even if older people have moved to the city because they wanted to live along the riverbank and enjoy the beauty of its nature and the cool river breeze that most make the weather in the neighborhood, it is the responsibility of the whole community to work together to make the positive changes.

The city's tourism attractions and activities can be utilized to effect changes on the social and economic life of the people. This can be an alternative source of income to bring in growth and develop commercial and residential housing facilities.

Rio Vista is a sanctuary from the big cities and traffic congestion. Its residents are believed to know each other and spread information from mouth to mouth.<sup>76</sup> But the only local grocery store, Lira's arcade, which many residents visit for their shopping does not meet all the needs of the population as some residents are obliged to travel outside town during weekends to make their big purchases of provisions. Lira's arcade, of course, is not an in-and-out experience but a center for social gathering, a place to chat with a neighbor or friend. Besides these positive aspects of community building of Rio Vista, challenges

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<sup>76</sup> Green, Harry Warren, "Kelly ready to serve a four-year term", Rio Vista Beacon, October 26, 2004, p.1

still exist in renovating the aging infrastructure in the town. All of which affect the economy of the community.

One other problem is the major artery in and out of town, Highway 12. It is a congested highway, although citizens disapprove of an expansion of it through town<sup>77</sup>. This road becomes even more congested in the summer months when the Rio Vista Bridge raises and lowers so that ships traveling along the river and recreational vessels can go through. Wind farms, developed about twenty years ago in the area, have recently been perfected and represent a great asset to Rio Vista's economy. Thus not only are the farmlands being used for farming and gas operation activities but also for large windmills that are erected to harness wind power. These activities add much more income to the gas royalties earned by the landowners but still social life improvement needs are felt because few are the residents who earn incomes from the royalties of gas and windmills.

Knowing that the city mostly runs on funds from royalties paid to the municipality by the gas and drilling companies and only a few employment opportunities are in town, a number residents question the future of the city as contributions from employment in the city and taxes mainly reposed on banking with Bank of Rio Vista having majority of the employees. Many people wonder about what will be the source of income for the city if the gas energy development operations no longer provide much more money for the municipality. The job market in the city is low, with the majority of the businesses only requiring less than ten employees. However, since most of the residents that are moving into Trilogy are seniors and retirees and appear to have come to

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<sup>77</sup> Rio Vista City's Economic Development and Marketing, 09/01/05 at The Point Restaurant, Rio Vista

Rio Vista just to enjoy their retirement years, business firms see it improbable to come establish their institutions in the area with no huge clientele.

The job market available for the local high school graduating class each year is small. Consequently, if an individual does not have a family member who owns a business or works for one that is expanding, chances for being employed in the city are limited. Certainly there are few employment opportunities. As a result, the youth of Rio Vista are leaving the nest for employment and housing opportunities that the town cannot provide at this point in time. With the new housing boom in recent years and the impact that it has had on the rising real estate market in town, an adverse effect is occurring. Those who grew up in town and work in town are finding it harder to afford to purchase homes in town, with the mere salaries they receive and the few jobs available. Despite the fact that most inhabitants work to keep the small town atmosphere in Rio Vista, reality presents the necessity for significant new development impacting the existing city services to improve community life and also retain the youth within the city.

The gas industry's impact upon Rio Vista is incredible. It brought the city fame as well as the need for everything from additional housing, trucking companies, welding businesses, and parts supplies. It created a job market, which never had been matched in Rio Vista's previous history but which, today does not meet the services required and needs felt in the community. Many residents are against growth but at the same time, feel the need for the city to have some business centers and social services that cater to the people.

During one of my last visits to Rio Vista this year, when I was trying to get his points of view on the positive and negative impacts of the gas industry on the Rio Vista community, Phil Pezzaglia stated that the growth Rio Vista has been experiencing in the past decade, does not impact Rio Vista in the same way that the gas industry did. He indicated that it has not created that many jobs or promoted the development of new local businesses to fulfill growing needs. After all, the question is what brought in the growth? The gas industry, I believe. It made the area known by newcomers while occupying most of the land on which development can be undertaken to satisfy the community's needs.

Certainly some of the businesses in Rio Vista have prospered greatly from the addition of Trilogy and the number of residents that have moved into the community. Regardless of all these developments, the city is far from realizing its objective of having specific social service centers to provide for the residents and bringing in adequate jobs to keep the people within. Although a number of the new residents have said that they would like to spend their money in their new community, the fact is that the city of Rio Vista is yet to fully enjoy this decision. It is not fortunate enough to have a wide array of retail businesses in which these people can do their major shopping at present.

There are also the major gas production related problems, which definitely keep development in the community at bay. Because of the gas activities, it is very difficult for landowners to release their land for other economic development. For instance, the Rio Vista Foundation is currently having difficulty to realizing their desire to build a new swimming pool for the city because of the

non-availability of land. Sites chosen on which to build the pool have been either under construction with gas pipelines or been identified as gas well building sites. A couple of the Rio Vista Foundation's regular scheduled meetings I attended during the period of my internship with the Rio Vista Chamber of Commerce made me aware of what was going on in the community. At one of the meetings held on September 13, 2004, at which the grants obtained by that time and consultations done to earn funds for the construction and the land proposed to build the pool on were discussed, I heard the argument of moving the only high school in the city to a new location in order to build the pool downtown at the present location of the school. The President of the Rio Vista Foundation on that occasion said: "The land being proposed to build on is filled with pipelines making it hard to even move the high school anywhere else in the city limit". Because of the gas production developments within the city it is impossible to allocate plots, as the landowners, beneficiaries of the gas royalty revenues seem reluctant to donate their land for specific developments. Although land donation is not easily done, there are still some landowners ready and willing to offer plots on their land for projects of development in the community.

## **Chapter 7**

### **Conclusion: Rio Vista today**

#### **The community's role in local economic development**

In this thesis, an attempt has been made to demonstrate how the discovery of natural gas within the Rio Vista community has impacted social life and also launched concerns for economic development initiatives in the area. The development of gas drilling has brought important changes to a number of activities of the people and it would be unrealistic to deny the significant impacts that the natural gas discovery has had on the neighborhood. Yet, even though the city and its residents have benefited tremendously from the gas development operations, the changes that are associated with these developments are not without consequences for the people, the city and its community and economic development.

Rio Vista can remain a small rural environment yet its development calls for a cohesive and comprehensive co-operation of residents, social institutions and companies working in and being part of the neighborhood. Rural development problems,[as we know], are complex and interrelated, combining concerns about population growth, economic transformation, local needs and global dynamics (Rural California, p. 220) and they cannot be solved if local communities are not made part of the solution. Local communities are deeply affected whenever new forms of energy are exploited and older forms abandoned. Energy resource development creates new opportunities for local residents. It may bring changes in the composition of the local population, but at

the same time easily generates inequalities or alter existing relationships within communities. While local business people may tend to overestimate the level of financial benefit they will gain from growth, a limited amount of information seems to indicate that they may underestimate the degree of change likely to take place in other areas (Weber and Howell, 1982, p. 155). Social factors can influence local economic development in several ways, such as providing access to resources and information, overcoming collective action problems of individual firms, and improving the functioning of local markets (Brown and Swanson, 2003). The rise of local economic development policies also represents a growing recognition by policy-makers that it is essential to engage local residents in decisions affecting their community and that local involvement improves the effectiveness of these policies (Green and Haines, 2002), for the field of community economic development not only involves actions to promote local economic development, but also is based on a process of public participation in decision-making (Boothroyd and Davis, 1993)<sup>78</sup>. Gas drilling in the residential community of Trilogy in Rio vista will eventually provide for the economy of the area. However, it should not be done if residents and gas companies are not settled on a concrete agreement about how to deal with activities in order not to endanger the health of people. Also residents have to be aware that gas production benefits their community and they need to cooperate instead of revolting. Rio Vista needs the gas resource income to supplement that of their small businesses, farming and wind industries.

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<sup>78</sup>Brown, David L., & Swanson, Louis E., 2003, "Challenges for Rural America in the Twenty-First Century" The Pennsylvania State University Press, University Park, Pennsylvania, p. 343

Economically, while few non-metropolitan counties depend exclusively on the farming, forestry, or mining sectors, natural resource industries and the processing of raw commodities can still be a significant source of income [as has been the case for mineral rights owners in Rio Vista] and employment in specific communities (Brown and Swanson, 2003, p. 312). Traditional rural activities [like farming in the community] also serve as a source of rural cultural identity and social networks (Salamon, 1995). From a fiscal standpoint, agricultural and forestered lands generally provide significant property tax revenue to local governments and demand relatively few services in return – particularly in contrast to residential land uses that often cost municipalities more to service than they return in local property taxes. Though difficult to quantify, the rural and open character of agricultural landscapes also provides the community with attractive views and a high quality of life (Olson, 1999). All of this makes rural communities a desirable place for people and businesses to visit, move to, and live in (Brown and Swanson, 2003, p. 312).

During one of my regular meetings with Phil Pezzaglia, he indicated that one major problem unnoticeable to all is that as children inherited their parents' gas producing property, they received split shares of the royalty incomes, and as this happens from generation to generation, more people are getting smaller amounts of royalty income. Certainly as many of these heirs continue to bear children, the distribution continues to become difficult as the majority choose not reside in the community and thus their royalty income is not being spent in the

community to generate local tax revenue. Even if the royalty income does, it certainly raises questions to be debated and answered.

Resident frustrations before the gas exploitation in the Rio Vista fields, as presented in this paper, suggest that the city should thoroughly rethink its engagement in development. Development, according to Bradshaw in his *In the Shadow of Urban Growth: Bifurcation in Rural California Communities*, “is problematic in both rural and urban areas. It requires inputs of economic resources as well as human and organizational resources, which some groups and communities possess and [others] do not” (Bradshaw, 1990). Therefore, the municipality ought to adopt adequate strategies and appropriate measures to develop thorough development programs with the understanding of making the maximum use of local assets without ignoring the constraints in order to provide strategies, tactics and community management techniques for promoting development in the community. With those assets, the neighborhood should be able to deal with people’s worries before the gas energy development. Working towards such goals with the community can help create substantial economic development in the area and enhance residents’ living conditions. Hopefully, as the next few years go by, the needs of the community and the challenges of the local economy will provide the idea for enterprising individuals to create businesses that can help fulfill the goals of the city. Whatever the situation, a number of actions have to be taken to promote economic development in present Rio Vista and to help energize life in the community. One such action is that related to looking for incentives for farming in the area.

Although farm lands exist in the community, and farming and ranching activities rest pursued in the neighborhood, benefits from the gas development operations have cut down interests in farming and attention paid to agriculture in the community. Also, as locally owned and community based wind projects are generating supplemental revenue for farmers and land rights owners, interest in farming appears low. These income generating means, keeping energy dollars in the hands of land leasers and enhancing the financial status of mineral rights holders, do not allow development in the city but rather unnoticeably support the tensions between growth and preservation of small town values.

These tensions between growth and preservation of historic small town values cannot be solved if residents' frustrations about the gas energy resource development in the city are not taken into account. In fact, for the community to benefit from the gas activities and build a better neighborhood for the people, drilling companies and homeowners must work together to come up with effective solutions to satisfy one another. The natural gas operations have certainly provided enough revenue for economic improvement in the community. They have supported development in the city and provided income for a great number of the local residents. The gas industry has also brought in growth that has resulted in positive and negative changes in the city. But whether there is a correlation between these negative changes and the possession of natural resource and socio-economic growth within a community, the fact is that the negative and positive changes always go hand in hand for any development achievement. Positive changes can occur when people with different

perspectives are organized into teams in which everyone is regarded as a peer, where there is involvement, a clear purpose, adequate resources and power to decide and implement. And as it is in the case of Rio Vista, the gas operation complaints need not break down the relationships between gas production companies and residents but rather bring the two parties together for resolving difficulties. The gas production must be carried out *even* in the residential areas with a mutual understanding of both parties. It must be done, either practically or legally, with the consent of residents. Even if newcomers to the town seem opposed to the gas developments, they have to be made to understand the benefits that these gas operations bring to the city and its community. Local residents have to be educated on the importance of the gas drilling and its service to all.

Despite the rapid growth and low development in the city, the community needs to remember and not to forget that progress within the neighborhood will not happen if the people do not stick together to resolve their differences. The younger generation should be made to get involved in the city's development debates. For the more involved they are in the business economy in the community, the better chances they have to make a change. While the aged cite the future of the open spaces being occupied by housing developments and lived by "outsiders" with varied views on the growth of "their" hometown, the youth see these new developments as ways to achieve economic development in the area.

After all, these problems of tensions cannot be solved if companies and residents do not work together, collaborate, get involved in city affairs, and

participate in decision making and activities going on within the community. Collaboration encompasses forms of interaction like communication, coalition-forming, coordination and cooperation. Collaboration is most important when problems like those of the energy development issues in Rio Vista community exceed the capacity of one community development organization (Brown and Swanson, 2003, p. 390). It is therefore up to the community and the companies doing business in these neighborhoods to work together with citizens/residents, collaborate with municipalities, share ideas and concerns about the community to establish solid, unified, specific, effective and precise strategies to purposefully perform their activities and develop the land which in every circumstance remains the common denominator of all parties' living and working in the neighborhood.

Getting the residents involved and participating in the functioning of the community will empower them. People must be empowered to make a positive impact and to make their community a better place for all. This means providing opportunities for all people to talk, share concerns and ideas, and participate as fully as possible in any social and political process of local administration and institutions. Empowering people requires a commitment to respect fundamental human rights and the rule of law<sup>79</sup>. I highly appreciate the monthly Economic Development and Marketing meetings that have been held in the city. I also encourage the citizens to take a role in helping in the yearly Bass Derby organized in the city during the first or second week of October by the Rio Vista Chamber of Commerce. The Chamber should continue to produce its monthly

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<sup>79</sup> Alan Doss and Ian McFarlane, United Nations Development Group, and Paul Isenman, development Co-operation Directorate, OECD, "Development: What it will take", October 2000

Newsletter which provides information on events that take place within the community. The City Manager's occasional newsletter that discusses works done and undertaken at the City Council Offices is also an asset to focus on. Furthermore due to the age bracket of people that are presently moving into Rio Vista, fifty-five and over, which according to many citizens, is one of the requirements of living at Trilogy, a need for more medical facilities must become a priority. While the majority of the population views this as probably the most crucial need at present, discussion of the gas industry impacts reveal that a number of gas industry land leasing homework issues must be looked at to help bring in jobs. With time hospitals and health care centers, superstores and clothing markets, big warehouses, bookshops, cinema halls, theatres, and other enterprises will follow. But, beforehand, a solution needs to be obtained for conflicts between gas companies and homeowners. How to preserve the rights of landowners and benefit from the royalty revenue but at the same time give surface users permits to develop the community land remains the issue. Given the broad range of problems which may confront rural communities as a result of rapid growth induced by large-scale energy development projects, advance planning and organization would seem not only prudent but essential as a means of minimizing disruptive social changes (Weber and Howell, 1982, p. 236). This type of effort suggested would, at a minimum, help rural residents to develop realistic expectations regarding the benefits and problems which might be anticipated in the event of large energy development. Changes in social organizations of human settlements involved in energy resource development

result from the rapid population growth and alterations in population composition that new immigration brings and which affect already existing social links. Yet social, economic, and political conditions that exist prior to such development influence change (Summers and Selvik, 199). Communities can build sustainable social capital by strengthening relationships and communication on a community-wide basis and encouraging community initiative, responsibility, and adaptability (Flora and Flora with Fey, 2004, 52)

It is the actions of people that transmit culture and legacy. It is people who must determine a community's development options, make decisions, and take action which is often most effective through groups. Ultimately, it is the quality of community social capital that affects the extent to which people expand their scope of concern beyond self-interest and beyond their family to include the community as a whole (Flora and Flora with Fey, 2004, 51). Making these qualities the focal point of concern for both the gas companies and residents in Rio Vista can help provide for development and maintain economic sustainability in the city while implementing innovative approaches to many of the current issues: lack of social centers, jobs, employment opportunities, decent homes (preferably owned). Communities are dissipative structures, and as the energy sources available are reduced, the effect will be manifested in unemployment and disorganization of local institutions (Rose, 1981).

Ultimately the future of Rio Vista is what matters. The future remains a very important topic for residents, their children and generations to come. As a great place to live with its pleasant weather, landscape, and river banks,

harmonious community initiatives have to be taken to make it livable or a place in which to retire. Now is the time to take the chance to invest in alternative economic opportunities, building a better environment and creating a dynamic city. The means will not be there forever because the municipality may lack funds for running activities in the neighborhood when gas resources are exhausted and this may create another major problem to the community and its people.

Thus what I recommend for the residents and community of Rio Vista, with regard to the above findings, discussions and argumentations, is to find an adequate way to work together with the gas companies and arrive at a consensual group decision on whatever issues they may have. There suggestions may be made for actions to be effectively taken to improve the quality of life. As Flora and Flora mentioned in the second edition of their book *Rural Communities: Legacy Plus Change*, "community development is what people do to improve the overall quality of life in the community". This is what gas companies in Rio Vista and the residents ought to possess as a mission statement to improve life in the neighborhood and achieve economic development. Although community development often involves economic development, it implies far much more work of local group thinking and entrepreneurship than individual proposals because central to the concept of community development is the ability of a group of people to solve common problems together. And I believe that with unity, mutual communication, adequate sharing of information, appropriate group planning and comprehensive economic development strategy discussions between parties involved, tensions

can be decreased to eventually promote socio-economic life and improve development achievement in the community of Rio Vista.

## Appendixes

I/- Table A1: Mineral Rights: 2005 Solano County Mineral Roll

| 2005 SOLANO COUNTY MINERAL ROLL |                |                  |                    |                    |                     |                    |
|---------------------------------|----------------|------------------|--------------------|--------------------|---------------------|--------------------|
| APN                             | OPERATOR       | LEASE/WELL       | MINERAL<br>RIGHT   | IMPROV-<br>MENTS   | NON-FILE<br>PENALTY | TOTAL<br>VALUE     |
| 97-030-03                       | ABA Energy     | Atkinson B-1     | 20,438             | 11,439             | 0                   | 31,877             |
| 97-130-19                       | ABA Energy     | Petersen Est. 1  | 8,000              | 12,540             | 0                   | 20,540             |
| 97-312-81                       | ABA Energy     | Church 1-35      | 137,754            | 59,038             | 0                   | 196,792            |
| 97-312-91                       | ABA Energy     | Church 1-2       | 281,887            | 120,809            | 0                   | 402,696            |
| 97-312-93                       | ABA Energy     | PPCO-Lee Anne 1  | 770,565            | 110,986            | 0                   | 881,551            |
| 97-312-94                       | ABA Energy     | PPCO-SOS 1       | 8,000              | 10,875             | 0                   | 18,875             |
| 97-313-15                       | ABA Energy     | Lee Anne 2       | 244,358            | 104,725            | 0                   | 349,083            |
| 97-313-24                       | ABA Energy     | Church 1-11      | 57,407             | 24,603             | 0                   | 82,010             |
| 97-313-27                       | ABA Energy     | CNGC PAC 3-1     | 795,545            | 205,279            | 0                   | 1,000,824          |
| 97-313-33                       | ABA Energy     | CNGC PAC 34-1    | 471,159            | 119,743            | 0                   | 590,902            |
| 97-313-34                       | ABA Energy     | CNGC PAC 34-2    | 8,000              | 9,900              | 0                   | 17,900             |
| 97-313-40                       | ABA Energy     | Carole Lynn 1-15 | 61,989             | 26,558             | 0                   | 88,527             |
| 97-313-53                       | ABA Energy     | Horigan 6        | 1,037,159          | 143,498            | 0                   | 1,180,657          |
| 97-313-54                       | ABA Energy     | Lee Anne 3       | 151,393            | 64,883             | 0                   | 216,276            |
| 97-313-66                       | ABA Energy     | CNGC PAC 34-3    | 8,000              | 10,200             | 0                   | 18,200             |
| 97-313-74                       | ABA Energy     | CNGC PAC 3-3     | 246,360            | 105,583            | 0                   | 351,943            |
| 97-313-79                       | ABA Energy     | Andy Smith 1     | 173,073            | 74,174             | 0                   | 247,247            |
| 97-313-80                       | ABA Energy     | Horigan Rayn 1   | 47,761             | 12,695             | 0                   | 60,456             |
| 97-313-90                       | ABA Energy     | CNGC PAC 34-4    | 628,965            | 74,966             | 0                   | 703,931            |
| 97-313-91                       | ABA Energy     | Church 3-35      | 178,481            | 76,492             | 0                   | 254,973            |
| 97-314-03 X                     | ABA Energy     | Wild Rose 1      | 842,044            | 510,922            | 0                   | 1,352,966          |
| ✓ COMPANY TOTALS:               |                |                  | <u>\$6,178,318</u> | <u>\$1,889,908</u> | <u>\$0</u>          | <u>\$8,068,226</u> |
| 97-010-01                       | Allied Energy  | Winters 4-1      | 8,000              | 7,200              | 1,520               | 16,720             |
| ✓ COMPANY TOTALS:               |                |                  | <u>\$8,000</u>     | <u>\$7,200</u>     | <u>\$1,520</u>      | <u>\$16,720</u>    |
| 97-070-10                       | Armstrong Pet. | BZGU 502         | 8,000              | 10,050             | 0                   | 18,050             |
| 97-100-04                       | Armstrong Pet. | BZGU 701         | 8,000              | 10,200             | 0                   | 18,200             |
| 97-210-04 (1)                   | Armstrong Pet. | Church 1         | 8,000              | 14,700             | 2,270               | 24,970             |
| 97-310-08 (1)                   | Armstrong Pet. | Church 5         | 99,354             | 23,253             | 0                   | 122,607            |
| 97-311-25                       | Armstrong Pet. | BZGU 403         | 8,000              | 10,050             | 0                   | 18,050             |
| 97-312-06                       | Armstrong Pet. | Carter 3         | 8,000              | 9,150              | 0                   | 17,150             |
| 97-312-99                       | Armstrong Pet. | APC Comber 4     | 8,000              | 15,000             | 0                   | 23,000             |
| 97-313-73                       | Armstrong Pet. | Rayn 405         | 8,000              | 11,100             | 0                   | 19,100             |
| ✓ COMPANY TOTALS:               |                |                  | <u>\$155,354</u>   | <u>\$103,503</u>   | <u>\$2,270</u>      | <u>\$261,127</u>   |
| 97-070-07                       | Aspen Explor.  | Anderson 1-2     | 64,679             | 18,542             | 0                   | 83,221             |
| 97-312-83                       | Aspen Explor.  | Emigh 34-1       | 88,241             | 13,204             | 0                   | 101,445            |
| 97-313-03                       | Aspen Explor.  | Emigh 35-2       | 2,447,384          | 418,745            | 0                   | 2,866,129          |
| 97-313-35                       | Aspen Explor.  | Cygnus 2         | 63,364             | 27,156             | 0                   | 90,520             |
| 97-313-42                       | Aspen Explor.  | Emigh 35-3       | 95,365             | 26,126             | 0                   | 121,491            |
| 97-314-04 X                     | Aspen Explor.  | Emigh 35-6       | 8,000              | 64,794             | 0                   | 72,794             |
| ✓ COMPANY TOTALS:               |                |                  | <u>\$2,767,033</u> | <u>\$568,567</u>   | <u>\$0</u>          | <u>\$3,335,600</u> |
| 97-210-09                       | C&C Minerals   | Peter Cook 14    | 8,000              | 13,526             | 0                   | 21,526             |
| ✓ COMPANY TOTALS:               |                |                  | <u>\$8,000</u>     | <u>\$13,526</u>    | <u>\$0</u>          | <u>\$21,526</u>    |
| 97-090-05                       | Calpine Gas    | Ed Wineman 3     | 8,000              | 7,500              | 0                   | 15,500             |
| 97-130-20                       | Calpine Gas    | ARPE 2           | 8,000              | 12,750             | 0                   | 20,750             |
| 97-130-22                       | Calpine Gas    | ARPE 3           | 178,485            | 5,850              | 0                   | 184,335            |
| 97-130-24                       | Calpine Gas    | ARPE 1           | 134,646            | 5,850              | 0                   | 140,496            |
| 97-130-29                       | Calpine Gas    | H Ranch 4-21     | 8,000              | 15,000             | 0                   | 23,000             |
| 97-130-30                       | Calpine Gas    | H Ranch 2-21     | 8,000              | 15,000             | 0                   | 23,000             |
| 97-150-03 (1)                   | Calpine Gas    | Lambie 9         | 159,507            | 75,713             | 23,522              | 258,742            |
| 97-150-04 (1)                   | Calpine Gas    | Lambie 5         | 159,507            | 75,713             | 23,522              | 258,742            |
| 97-150-05 (1)                   | Calpine Gas    | Lambie S-2       | 159,507            | 75,713             | 23,522              | 258,742            |
| 97-150-06 (1)                   | Calpine Gas    | Lambie 1-A       | 159,507            | 75,713             | 23,522              | 258,742            |

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## 2005 SOLANO COUNTY MINERAL ROLL

| APN           | OPERATOR    | LEASE/WELL     | MINERAL<br>RIGHT | IMPROV-<br>MENTS | NON-FILE<br>PENALTY | TOTAL<br>VALUE |
|---------------|-------------|----------------|------------------|------------------|---------------------|----------------|
| 97-150-07 (1) | Calpine Gas | Lambie S-1     | 159,507          | 75,713           | 23,522              | 258,742        |
| 97-150-08 (1) | Calpine Gas | Lambie 10      | 159,507          | 75,713           | 23,522              | 258,742        |
| 97-200-01     | Calpine Gas | AUPE 3         | 1,223,097        | 79,288           | 0                   | 1,302,385      |
| 97-200-02     | Calpine Gas | AUPE 1         | 1,494,896        | 79,288           | 0                   | 1,574,184      |
| 97-220-01     | Calpine Gas | Marks 6        | 8,000            | 13,500           | 0                   | 21,500         |
| 97-220-02     | Calpine Gas | RVGU 84-003    | 71,463,674       | 5,561,156        | 7,702,483           | 84,727,313     |
| 97-220-08     | Calpine Gas | Emigh 12       | 1,864,660        | 36,936           | 0                   | 1,901,596      |
| 97-220-10     | Calpine Gas | Emigh 13       | 1,654,656        | 36,936           | 0                   | 1,691,592      |
| 97-220-11     | Calpine Gas | Emigh 14       | 1,169,035        | 36,936           | 0                   | 1,205,971      |
| 97-220-12     | Calpine Gas | Emigh 10       | 8,000            | 13,500           | 0                   | 21,500         |
| 97-220-16     | Calpine Gas | Drouin 11      | 8,000            | 13,500           | 0                   | 21,500         |
| 97-220-19     | Calpine Gas | M. Hamilton 5  | 671,441          | 36,936           | 0                   | 708,377        |
| 97-220-20     | Calpine Gas | Drouin 10      | 431,743          | 36,936           | 0                   | 468,679        |
| 97-220-31     | Calpine Gas | P. Anderson 12 | 8,000            | 10,050           | 0                   | 18,050         |
| 97-220-32     | Calpine Gas | RVGU 04-006    | 8,598,699        | 5,561,156        | 1,415,986           | 15,575,841     |
| 97-220-33     | Calpine Gas | R.V. State 17  | 0                | 115,249          | 0                   | 115,249        |
| 97-220-35     | Calpine Gas | Drouin 9       | 293,815          | 36,936           | 0                   | 330,751        |
| 97-230-02     | Calpine Gas | Emigh 11 (WDW) | 8,000            | 13,500           | 0                   | 21,500         |
| 97-230-08     | Calpine Gas | N. Hamilton 5  | 827,328          | 36,936           | 0                   | 864,264        |
| 97-230-10     | Calpine Gas | N. Hamilton 4  | 419,770          | 36,936           | 0                   | 456,706        |
| 97-230-15     | Calpine Gas | J. Mayhood 9   | 8,000            | 13,500           | 0                   | 21,500         |
| 97-230-17     | Calpine Gas | J. Mayhood 5   | 8,000            | 13,500           | 0                   | 21,500         |
| 97-230-18     | Calpine Gas | J. Mayhood 6   | 8,000            | 13,500           | 0                   | 21,500         |
| 97-230-19     | Calpine Gas | J. Mayhood 8   | 311,774          | 36,936           | 0                   | 348,710        |
| 97-230-21     | Calpine Gas | P. Anderson 11 | 503,531          | 56,725           | 0                   | 560,256        |
| 97-230-25     | Calpine Gas | McCormick 5    | 8,000            | 13,500           | 0                   | 21,500         |
| 97-230-27     | Calpine Gas | Deterding 3    | 3,741,054        | 36,936           | 0                   | 3,777,990      |
| 97-230-33     | Calpine Gas | E. Mayhood 3   | 8,000            | 13,500           | 0                   | 21,500         |
| 97-230-37     | Calpine Gas | Deterding 4    | 8,000            | 13,500           | 0                   | 21,500         |
| 97-230-39     | Calpine Gas | McCormick 6    | 1,888,606        | 36,936           | 0                   | 1,925,542      |
| 97-240-05 (1) | Calpine Gas | Lambie 11      | 159,507          | 75,713           | 23,522              | 258,742        |
| 97-260-03     | Calpine Gas | P. Anderson 30 | 988,451          | 56,725           | 0                   | 1,045,176      |
| 97-260-05     | Calpine Gas | P. Anderson 18 | 177,458          | 56,725           | 0                   | 234,183        |
| 97-260-06     | Calpine Gas | P. Anderson 23 | 8,000            | 10,050           | 0                   | 18,050         |
| 97-260-07     | Calpine Gas | P. Anderson 14 | 650,634          | 56,725           | 0                   | 707,359        |
| 97-260-09     | Calpine Gas | P. Anderson 13 | 8,000            | 10,050           | 0                   | 18,050         |
| 97-260-15     | Calpine Gas | P. Anderson 21 | 8,000            | 10,050           | 0                   | 18,050         |
| 97-260-17     | Calpine Gas | P. Anderson 20 | 8,000            | 10,050           | 0                   | 18,050         |
| 97-260-18     | Calpine Gas | P. Anderson 26 | 294,070          | 56,725           | 0                   | 350,795        |
| 97-260-20     | Calpine Gas | P. Anderson 19 | 8,000            | 10,050           | 0                   | 18,050         |
| 97-260-22     | Calpine Gas | P. Anderson 22 | 8,000            | 10,050           | 0                   | 18,050         |
| 97-260-23     | Calpine Gas | P. Anderson 15 | 8,000            | 10,050           | 0                   | 18,050         |
| 97-260-27     | Calpine Gas | P. Anderson 29 | 244,211          | 56,725           | 0                   | 300,936        |
| 97-300-13     | Calpine Gas | H Ranch 6-22   | 8,000            | 15,000           | 0                   | 23,000         |
| 97-300-25     | Calpine Gas | H Ranch 5-22   | 8,000            | 15,000           | 0                   | 23,000         |
| 97-310-66     | Calpine Gas | H Ranch 3-22   | 8,000            | 15,000           | 0                   | 23,000         |
| 97-310-74     | Calpine Gas | Serpa 4        | 3,105            | 112              | 0                   | 3,217          |
| 97-310-82     | Calpine Gas | P. Anderson 32 | 8,000            | 10,050           | 0                   | 18,050         |
| 97-310-91     | Calpine Gas | A. McCormick 1 | 915,998          | 56,725           | 0                   | 972,723        |
| 97-311-03     | Calpine Gas | P. Anderson 38 | 302,585          | 56,725           | 0                   | 359,310        |
| 97-311-12     | Calpine Gas | A. McCormick 2 | 311,788          | 56,725           | 0                   | 368,513        |
| 97-311-13     | Calpine Gas | M.E. Wineman 5 | 8,000            | 7,800            | 0                   | 15,800         |

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## 2005 SOLANO COUNTY MINERAL ROLL

| APN               | OPERATOR        | LEASE/WELL        | MINERAL<br>RIGHT     | IMPROV-<br>MENTS    | NON-FILE<br>PENALTY | TOTAL<br>VALUE       |
|-------------------|-----------------|-------------------|----------------------|---------------------|---------------------|----------------------|
| 97-311-17         | Calpine Gas     | R.V. State 22     | 250,782              | 115,249             | 0                   | 366,031              |
| 97-311-24         | Calpine Gas     | H Ranch 7-22      | 8,000                | 15,000              | 0                   | 23,000               |
| 97-311-30         | Calpine Gas     | R.V. State 23     | 8,000                | 10,050              | 0                   | 18,050               |
| 97-311-32         | Calpine Gas     | P. Anderson 36    | 950,954              | 56,725              | 0                   | 1,007,679            |
| 97-311-33         | Calpine Gas     | H.E. Peters 4     | 8,000                | 9,150               | 0                   | 17,150               |
| 97-311-34         | Calpine Gas     | R.V. State 18     | 250,782              | 0                   | 0                   | 250,782              |
| 97-311-41         | Calpine Gas     | Kroutch 16-1      | 8,000                | 10,200              | 0                   | 18,200               |
| 97-311-47         | Calpine Gas     | R.V. State 20     | 8,000                | 0                   | 0                   | 8,000                |
| 97-311-73         | Calpine Gas     | Zanetti 1         | 8,000                | 8,888               | 0                   | 16,888               |
| 97-311-91         | Calpine Gas     | Rayn Comber 1     | 8,000                | 14,400              | 0                   | 22,400               |
| 97-311-95         | Calpine Gas     | Triguero 5        | 8,000                | 14,550              | 0                   | 22,550               |
| 97-311-96         | Calpine Gas     | P. Anderson 41    | 967,230              | 56,725              | 0                   | 1,023,955            |
| 97-312-02         | Calpine Gas     | Triguero 4        | 3,652,994            | 339,356             | 0                   | 3,992,350            |
| 97-312-04         | Calpine Gas     | Carter GU 1       | 8,000                | 13,200              | 0                   | 21,200               |
| 97-312-08         | Calpine Gas     | Carter GU 4       | 8,000                | 13,200              | 0                   | 21,200               |
| 97-312-17         | Calpine Gas     | Rayn Comber 2     | 8,000                | 14,400              | 0                   | 22,400               |
| 97-312-22         | Calpine Gas     | Carter GU 7       | 8,000                | 13,200              | 0                   | 21,200               |
| 97-312-27         | Calpine Gas     | Horgan 2          | 8,000                | 15,000              | 0                   | 23,000               |
| 97-312-51         | Calpine Gas     | Zanetti 4         | 8,000                | 8,250               | 0                   | 16,250               |
| 97-312-79         | Calpine Gas     | Wineman 6         | 8,000                | 9,000               | 0                   | 17,000               |
| 97-313-02         | Calpine Gas     | P. Anderson 52    | 560,669              | 56,725              | 0                   | 617,394              |
| 97-313-47         | Calpine Gas     | Deterding 6       | 3,945,073            | 36,936              | 0                   | 3,982,009            |
| 97-313-48         | Calpine Gas     | Zanetti 5         | 8,000                | 6,750               | 0                   | 14,750               |
| 97-313-51         | Calpine Gas     | Wineman et al 2   | 8,000                | 9,750               | 0                   | 17,750               |
| 97-313-52         | Calpine Gas     | H. E. Peters 1    | 6,928                | 10,067              | 0                   | 16,995               |
| 97-313-76 (2)     | Calpine Gas     | E. Drouin 12      | 0                    | 0                   | 0                   | 0                    |
| 97-313-88         | Calpine Gas     | Drouin 13         | 3,057,641            | 36,936              | 0                   | 3,094,577            |
| 97-313-89         | Calpine Gas     | Drouin 8          | 479,635              | 36,936              | 0                   | 516,571              |
| 97-313-96         | Calpine Gas     | Drouin 14         | 287,829              | 36,936              | 0                   | 324,765              |
| 97-313-97         | Calpine Gas     | Drouin 15         | 2,901,754            | 36,936              | 0                   | 2,938,690            |
| ✓ COMPANY TOTALS: |                 |                   | <u>\$119,540,030</u> | <u>\$14,187,776</u> | <u>\$9,283,123</u>  | <u>\$143,010,929</u> |
| 97-312-05         | Capitol Oil     | Brazil 1          | 877,549              | 29,328              | 0                   | 906,877              |
| 97-313-12         | Capitol Oil     | AW 1              | 162,132              | 22,778              | 0                   | 184,910              |
| 97-313-49         | Capitol Oil     | Joslin 1          | 1,840,938            | 144,864             | 0                   | 1,985,802            |
| ✓ COMPANY TOTALS: |                 |                   | <u>\$2,880,619</u>   | <u>\$196,970</u>    | <u>\$0</u>          | <u>\$3,077,589</u>   |
| 97-312-52 (3)     | Carneros Energy | Lambie 3-4        | 8,000                | 14,250              | 0                   | 22,250               |
| ✓ COMPANY TOTALS: |                 |                   | <u>\$8,000</u>       | <u>\$14,250</u>     | <u>\$0</u>          | <u>\$22,250</u>      |
| 97-310-30         | Casex Co.       | Seahawk 1-1       | 1,580,908            | 68,590              | 0                   | 1,649,498            |
| 97-311-11         | Casex Co.       | Seahawk 1-2       | 132,874              | 56,946              | 0                   | 189,820              |
| 97-313-94         | Casex Co.       | Cathey B 1-22     | 8,000                | 9,000               | 0                   | 17,000               |
| ✓ COMPANY TOTALS: |                 |                   | <u>1,721,782</u>     | <u>\$134,536</u>    | <u>\$0</u>          | <u>\$1,856,318</u>   |
| 97-110-12         | Castle Minerals | Miller Unit #1    | 853,867              | 133,620             | 0                   | 987,487              |
| 97-290-01         | Castle Minerals | Decker Island 1-1 | 8,000                | 9,000               | 0                   | 17,000               |
| 97-313-57         | Castle Minerals | Miller Unit 4     | 85,783               | 17,826              | 0                   | 103,609              |
| 97-313-62         | Castle Minerals | Peters 5          | 18,728               | 8,026               | 0                   | 26,754               |
| 97-313-98 X       | Castle Minerals | CMI 22-1          | 1,821,565            | 329,217             | 0                   | 2,150,782            |
| 97-314-15X        | Castle Minerals | CMI 22-2 R/D      | 8,000                | 462,203             | 0                   | 470,203              |
| ✓ COMPANY TOTALS: |                 |                   | <u>\$2,795,943</u>   | <u>\$959,892</u>    | <u>\$0</u>          | <u>\$3,755,835</u>   |
| 97-311-06         | R. Cohan        | Cathey 22-1       | 909,841              | 64,765              | 0                   | 974,606              |
| ✓ COMPANY TOTALS: |                 |                   | <u>\$909,841</u>     | <u>\$64,765</u>     | <u>\$0</u>          | <u>\$974,606</u>     |
| 97-310-59         | Concordia Res.  | HW Springs 2-11   | 329,436              | 264,653             | 0                   | 594,089              |
| 97-310-61         | Concordia Res.  | Akers 1-12        | 586,369              | 264,653             | 0                   | 851,022              |

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## 2005 SOLANO MINERAL ROLL COUNTY M

| APN                    | OPERATOR         | LEASE/WELL         | IMPROV-<br>MENTS   | MINERAL<br>RIGHT   | ON-FILE<br>PENALTY | TOTAL<br>VALUE     |
|------------------------|------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| 97-310-62              | Concordia Res.   | HW Springs 4-12    | 264,653            | 645,753            | 0                  | 910,406            |
| 97-310-63              | Concordia Res.   | HW Springs 1-11    | 18,350             | 8,000              | 0                  | 24,350             |
| 97-310-65              | Concordia Res.   | HW Springs 3-12    | 264,653            | 688,688            | 0                  | 953,341            |
| <b>COMPANY TOTALS:</b> |                  |                    | <b>\$1,074,962</b> | <b>\$2,258,246</b> | <b>\$0</b>         | <b>\$3,333,208</b> |
| 97-090-04              | Crest Oil & Gas  | WZU 13             | 7,200              | 8,000              | 1,520              | 16,720             |
| 97-311-77              | Crest Oil & Gas  | WZU 15             | 7,050              | 8,000              | 1,505              | 16,555             |
| 97-312-87              | Crest Oil & Gas  | H&T 1-2            | 8,565              | 8,000              | 1,657              | 18,222             |
| 97-313-92              | Crest Oil & Gas  | Maine Prairie 2    | 407,291            | 1,377,241          | 178,453            | 1,962,985          |
| <b>COMPANY TOTALS:</b> |                  |                    | <b>\$430,106</b>   | <b>\$1,401,241</b> | <b>\$183,135</b>   | <b>\$2,014,482</b> |
| 97-312-21              | Enerfin Res.     | N. W. Sprgs 1-1    | 131,329            | 941,307            | 0                  | 1,072,636          |
| <b>COMPANY TOTALS:</b> |                  |                    | <b>\$131,329</b>   | <b>\$941,307</b>   | <b>\$0</b>         | <b>\$1,072,636</b> |
| 97-313-72              | Hamar Assoc.     | McCormack 1-15     | 15,000             | 8,000              | 0                  | 23,000             |
| <b>COMPANY TOTALS:</b> |                  |                    | <b>\$15,000</b>    | <b>\$8,000</b>     | <b>\$0</b>         | <b>\$23,000</b>    |
| 97-314-16 X#           | Hexadyne Energy  | Feather River 6-1  | 760,507            | 1,592,626          | 0                  | 2,353,133          |
| <b>COMPANY TOTALS:</b> |                  |                    | <b>760,507</b>     | <b>1,592,626</b>   | <b>0</b>           | <b>2,353,133</b>   |
| 97-050-02              | Instrat, Inc.    | Dawson 1           | 25,000             | 8,000              | 0                  | 33,000             |
| 97-312-44              | Instrat, Inc.    | Krutch 16-2        | 160,780            | 156,574            | 0                  | 317,354            |
| <b>COMPANY TOTALS:</b> |                  |                    | <b>\$185,780</b>   | <b>\$164,574</b>   | <b>\$0</b>         | <b>\$350,354</b>   |
| 97-310-10              | KC Resources     | Persec A-1         | 14,250             | 8,000              | 2,225              | 24,475             |
| 97-310-28              | KC Resources     | Persec B-1         | 14,250             | 8,000              | 2,225              | 24,475             |
| 97-310-49              | KC Resources     | Persec A-2         | 121,798            | 284,196            | 40,599             | 446,593            |
| <b>COMPANY TOTALS</b>  |                  |                    | <b>\$150,298</b>   | <b>\$300,196</b>   | <b>\$45,049</b>    | <b>\$495,543</b>   |
| 97-313-99 X#           | Lario Oil & Gas  | Bushmaster 1-17    | 145,928            | 252,455            | 0                  | 398,383            |
| 97-314-05 X#           | Lario Oil & Gas  | Diamond Back 1-20  | 51,482             | 8,000              | 0                  | 59,482             |
| <b>COMPANY TOTALS:</b> |                  |                    | <b>\$197,410</b>   | <b>\$260,455</b>   | <b>\$0</b>         | <b>\$457,865</b>   |
| 97-314-07 X            | Output Explor.   | Wineman 1-22       | 355,069            | 666,442            | 0                  | 1,021,511          |
| 97-313-14              | Output Explor.   | Lyra 1             | 5,080              | 11,854             | 0                  | 16,934             |
| 97-313-64              | Output Explor.   | Moresco 1-12       | 214,941            | 501,529            | 71,647             | 788,117            |
| 97-313-71              | Output Explor.   | Moresco 2-12       | 10,500             | 8,000              | 0                  | 18,500             |
| 97-313-84              | Output Explor.   | Lyra 2             | 122,820            | 453,003            | 0                  | 575,823            |
| 97-313-95              | Output Explor.   | Lyra 3             | 92,079             | 214,852            | 0                  | 306,931            |
| <b>COMPANY TOTALS:</b> |                  |                    | <b>\$800,489</b>   | <b>\$1,855,680</b> | <b>71,647</b>      | <b>2,727,816</b>   |
| 97-312-78              | Oxy Resources    | Nixon 22-1         | 15,577             | 412,154            | 0                  | 427,731            |
| 97-312-95              | Oxy Resources    | Gladys Co. 23-2    | 68,593             | 1,609,799          | 0                  | 1,678,392          |
| 97-313-10              | Oxy Resources    | Gladys 23-3        | 36,135             | 374,536            | 0                  | 410,671            |
| 97-314-08 X            | Oxy Resources    | Sangria 1          | 760,000            | 8,000              | 76,800             | 844,800            |
| <b>COMPANY TOTALS:</b> |                  |                    | <b>\$880,305</b>   | <b>\$2,404,489</b> | <b>\$76,800</b>    | <b>\$3,361,594</b> |
| 97-311-26              | Pacific Pet Tech | AHC Church 11      | 15,900             | 8,000              | 2390               | 26,290             |
| 97-312-15              | Pacific Pet Tech | N. W. Sprngs 1-2   | 16,233             | 8,000              | 2423               | 26,656             |
| 97-312-63              | Pacific Pet Tech | N. W. Sprngs 2-2   | 13,500             | 8,000              | 2150               | 23,650             |
| <b>COMPANY TOTALS:</b> |                  |                    | <b>\$45,633</b>    | <b>\$24,000</b>    | <b>\$6,963</b>     | <b>\$76,596</b>    |
| 97-130-08              | Petersen Prod.   | Petersen Est 1-27  | 122,357            | 1,151,326          | 0                  | 1,273,683          |
| 97-130-12              | Petersen Prod.   | Petersen Est. 9    | 13,650             | 8,000              | 0                  | 21,650             |
| 97-130-14              | Petersen Prod.   | Petersen Est 2 WDW | 38,828             | 8,000              | 0                  | 46,828             |
| 97-130-15              | Petersen Prod.   | Petersen Est. 6    | 13,650             | 8,000              | 0                  | 21,650             |
| 97-300-04              | Petersen Prod.   | Petersen Est.12    | 13,650             | 8,000              | 0                  | 21,650             |
| 97-300-12              | Petersen Prod.   | Petersen Est. 11   | 122,357            | 1,065,148          | 0                  | 1,187,505          |
| 97-310-41              | Petersen Prod.   | Petersen Est 3-22  | 122,357            | 155,849            | 0                  | 278,206            |
| 97-311-80              | Petersen Prod.   | Petersen Est. 14   | 13,650             | 8,000              | 0                  | 21,650             |
| 97-312-12              | Petersen Prod.   | Petersen Est. 15   | 122,357            | 322,985            | 0                  | 445,342            |
| 97-313-09              | Petersen Prod.   | JDP 1              | 122,357            | 209,619            | 0                  | 331,976            |
| 97-313-29              | Petersen Prod.   | JDP 2              | 122,357            | 2,078,893          | 0                  | 2,201,250          |

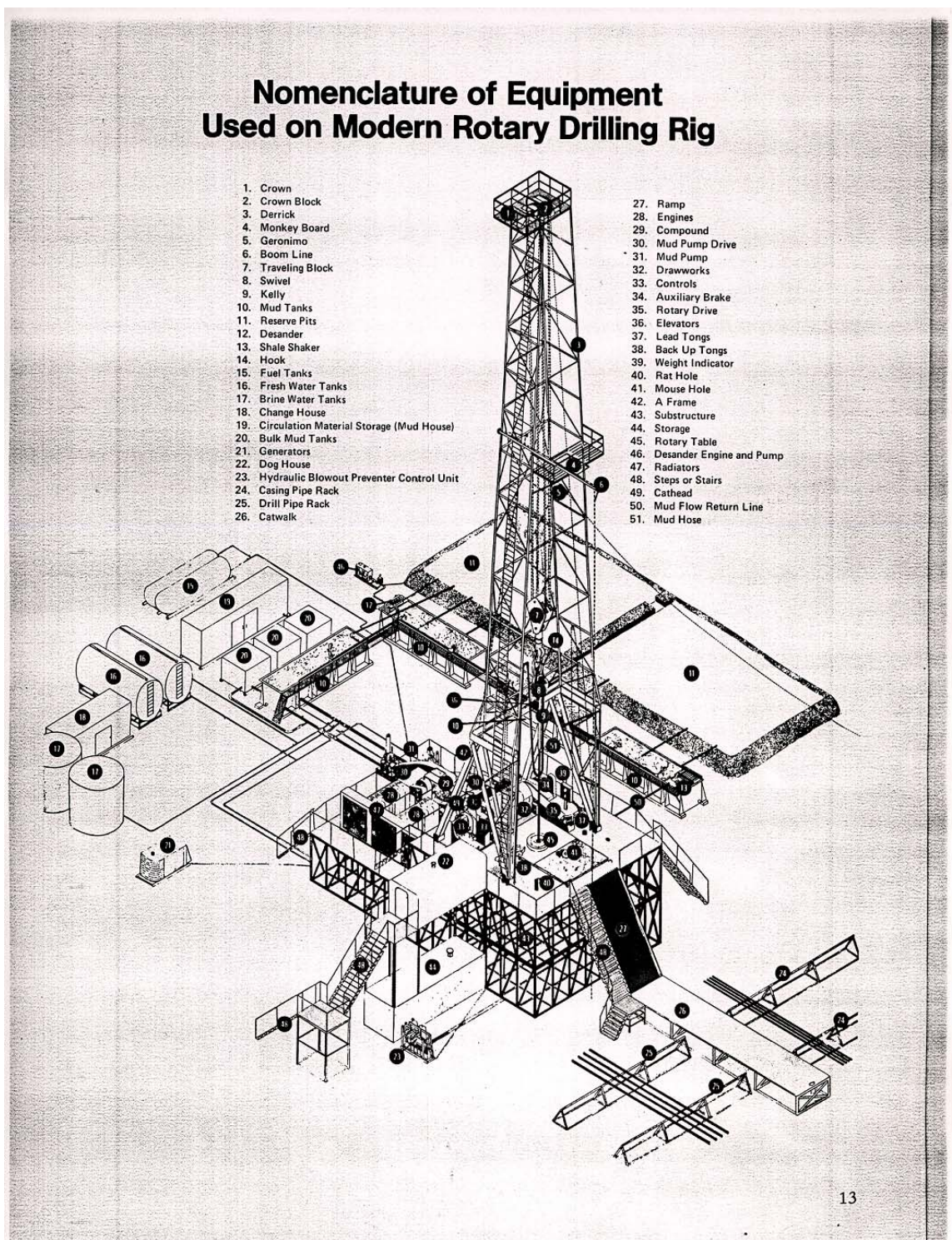
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## 2005 SOLANO GENERAL ROLL COUNTY MILL

| APN                    | OPERATOR        | LEASE/WELL        | IMPROV-<br>MENTS          | MINERAL<br>F RIGHT        | NON-FILE<br>PENALTY | TOTAL<br>VALUE            |
|------------------------|-----------------|-------------------|---------------------------|---------------------------|---------------------|---------------------------|
| 97-313-58              | Petersen Prod.  | JDP 3             | 122,357                   | 1,050,765                 | 0                   | 1,173,122                 |
| 97-313-69              | Petersen Prod.  | Meadowlark 1      | 15,593                    | 8,000                     | 0                   | 23,593                    |
| 97-313-70              | Petersen Prod.  | Blackbird 1       | 122,357                   | 34,289                    | 0                   | 156,646                   |
| <b>COMPANY TOTALS:</b> |                 |                   | <b><u>\$1,087,877</u></b> | <b><u>\$6,116,874</u></b> | <b><u>\$0</u></b>   | <b><u>\$7,204,751</u></b> |
| 97-311-52              | Romara Energy   | KBW Ranch 3-1     | 64,453                    | 552,855                   | 0                   | 617,308                   |
| <b>COMPANY TOTALS:</b> |                 |                   | <b><u>\$64,453</u></b>    | <b><u>\$552,855</u></b>   | <b><u>\$0</u></b>   | <b><u>\$617,308</u></b>   |
| 97-260-01              | Royale Energy   | McCormack 4       | 41,553                    | 118,289                   | 0                   | 159,842                   |
| 97-260-02              | Royale Energy   | McCormack 1       | 41,553                    | 62,667                    | 0                   | 104,220                   |
| 97-260-13              | Royale Energy   | McCormack 2       | 9,600                     | 8,000                     | 0                   | 17,600                    |
| 97-260-14              | Royale Energy   | McCormack 3       | 9,600                     | 8,000                     | 0                   | 17,600                    |
| 97-260-24              | Royale Energy   | D. Pressley 2 WDW | 33,515                    | 8,235                     | 0                   | 41,750                    |
| 97-260-25              | Royale Energy   | McCormack 5       | 41,553                    | 51,462                    | 0                   | 93,015                    |
| 97-311-39              | Royale Energy   | Federal 3-1       | 16,905                    | 326,682                   | 0                   | 343,587                   |
| 97-311-48              | Royale Energy   | Federal 3-2       | 16,905                    | 315,943                   | 0                   | 332,848                   |
| 97-312-75              | Royale Energy   | D. Pressley 5     | 9,450                     | 8,000                     | 0                   | 17,450                    |
| 97-313-32              | Royale Energy   | McCormack 6       | 41,553                    | 386,010                   | 0                   | 427,563                   |
| 97-313-60              | Royale Energy   | McCormack 7       | 9,600                     | 8,000                     | 0                   | 17,600                    |
| 97-313-65              | Royale Energy   | McCormack 8       | 41,553                    | 314,527                   | 0                   | 356,080                   |
| 97-314-09 X            | Royale Energy   | Kingfisher 1      | 12,750                    | 8,000                     | 0                   | 20,750                    |
| 97-314-10 X            | Royale Energy   | Raven 1           | 1,005,442                 | 8,000                     | 0                   | 1,013,442                 |
| <b>COMPANY TOTALS:</b> |                 |                   | <b><u>\$1,331,532</u></b> | <b><u>\$1,631,815</u></b> | <b><u>\$0</u></b>   | <b><u>\$2,963,347</u></b> |
| 97-313-04              | Slawson Explor. | Molucca 1-35      | 27,230                    | 108,254                   | 0                   | 135,484                   |
| 97-313-61              | Slawson Explor. | Davison 2-2       | 4,350                     | 8,000                     | 0                   | 12,350                    |
| 97-313-82              | Slawson Explor. | CP 1-24           | 43,485                    | 8,000                     | 0                   | 51,485                    |
| 97-313-86              | Slawson Explor. | Fletcher 1-20     | 73,983                    | 172,628                   | 0                   | 246,611                   |
| 97-313-93              | Slawson Explor. | Ruby 1-24         | 32,277                    | 75,313                    | 0                   | 107,590                   |
| <b>COMPANY TOTALS:</b> |                 |                   | <b><u>\$181,325</u></b>   | <b><u>\$372,195</u></b>   | <b><u>\$0</u></b>   | <b><u>\$553,520</u></b>   |
| 97-313-75              | Stream Energy   | Belleair 5-9      | 95,045                    | 327,854                   | 0                   | 422,899                   |
| 97-313-85              | Stream Energy   | Belleair 6-9      | 51,916                    | 121,137                   | 0                   | 173,053                   |
| <b>COMPANY TOTALS:</b> |                 |                   | <b><u>\$146,961</u></b>   | <b><u>\$448,991</u></b>   | <b><u>\$0</u></b>   | <b><u>\$595,952</u></b>   |
| 97-314-01 X#           | Source Energy   | Dorothy 1-30      | 486,670                   | 8,000                     | 0                   | 494,670                   |
| 97-314-11 X#           | Source Energy   | Anderson 1-18     | 531,964                   | 8,000                     | 0                   | 539,964                   |
| 97-314-12 X#           | Source Energy   | Dawson 1-19       | 601,010                   | 8,000                     | 0                   | 609,010                   |
| 97-314-13 X#           | Source Energy   | Rasmussen 1-22    | 588,873                   | 8,000                     | 0                   | 596,873                   |
| 97-314-14 X#           | Source Energy   | Rowe 1-7          | 515,812                   | 8,000                     | 0                   | 523,812                   |
| <b>COMPANY TOTALS:</b> |                 |                   | <b><u>\$2,724,329</u></b> | <b><u>\$40,000</u></b>    | <b><u>\$0</u></b>   | <b><u>\$2,764,329</u></b> |
| 97-314-02 X            | Towne Explor.   | Church 6-6        | 369,360                   | 1,077,946                 | 0                   | 1,447,306                 |
| <b>COMPANY TOTALS:</b> |                 |                   | <b><u>\$369,360</u></b>   | <b><u>\$1,077,946</u></b> | <b><u>\$0</u></b>   | <b><u>\$1,447,306</u></b> |
| 97-220-34              | Tri-Valley O&G  | Hanson 1          | 52,046                    | 238,156                   | 0                   | 290,202                   |
| 97-220-38              | Tri-Valley O&G  | Hanson 4          | 8,700                     | 8,000                     | 0                   | 16,700                    |
| 97-220-39              | Tri-Valley O&G  | Hanson 3          | 52,046                    | 437,011                   | 0                   | 489,057                   |
| 97-230-14              | Tri-Valley O&G  | Hanson 2          | 52,046                    | 630,512                   | 0                   | 682,558                   |
| <b>COMPANY TOTALS:</b> |                 |                   | <b><u>\$164,838</u></b>   | <b><u>\$1,313,679</u></b> | <b><u>\$0</u></b>   | <b><u>\$1,478,517</u></b> |
| 97-170-02              | Venoco, Inc.    | Suisun 17         | 5,850                     | 8,000                     | 0                   | 13,850                    |
| 97-170-03              | Venoco, Inc.    | Suisun 22         | 13,239                    | 967,758                   | 0                   | 980,997                   |
| 97-270-03              | Venoco, Inc.    | Ryer Isld Unit 3  | 17,518                    | 151,531                   | 0                   | 169,049                   |
| 97-270-04              | Venoco, Inc.    | Ryer Isld Unit 5  | 5,850                     | 8,000                     | 0                   | 13,850                    |
| 97-270-05              | Venoco, Inc.    | Ryer Isld Unit 2  | 17,518                    | 80,357                    | 0                   | 97,875                    |
| 97-270-06              | Venoco, Inc.    | Ryer Isld Unit 1  | 17,518                    | 2,064,035                 | 0                   | 2,081,553                 |
| 97-270-08              | Venoco, Inc.    | Honker Farms 1    | 14,632                    | 148,632                   | 0                   | 163,264                   |
| 97-270-09              | Venoco, Inc.    | Feykert 2         | 0                         | 8,000                     | 0                   | 8,000                     |
| 97-270-10              | Venoco, Inc.    | Van Sickle 3      | 14,632                    | 7,700                     | 0                   | 22,332                    |

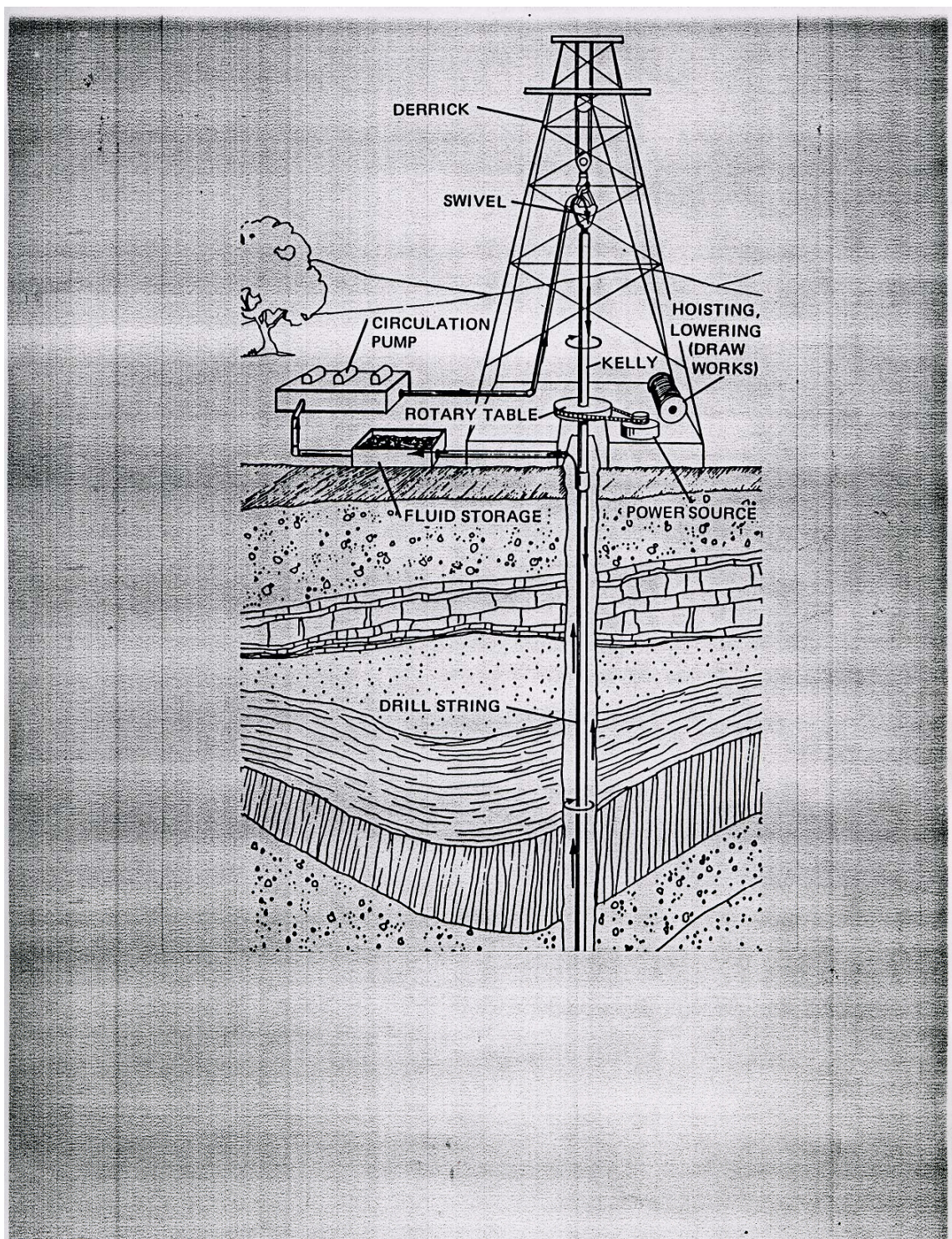
6/8/05

II/- Figure A1: Nomenclature of Equipment Used on Modern Rotary Drilling Rig



Source: California Department of Conservation, Division of Oil, Gas, and Geothermal, website [www.conservation.ca.gov/dog](http://www.conservation.ca.gov/dog)

III/- Figure A2: Draw works and the derrick



Source: California Department of Conservation, Division of Oil, Gas, and Geothermal, website [www.conservation.ca.gov/dog](http://www.conservation.ca.gov/dog)

### Figure 2 (above): Draw works and the derrick

The raising or lowering of the drill string is controlled by a series of hoists and pulleys that are referred to as DRAW WORKS, which are attached to the derrick. For information on the technique, tools and terminology of drilling, contact the Rio Vista Museum Association at 16 North Front Street, Rio Vista, CA 94571 to consult the document on “A Short History of Smith Tool”.

**IV/- Table A3 - Mayors of the City of Rio Vista since its incorporation<sup>80</sup>**

| Name                   | Term Period      | Specific Information     |
|------------------------|------------------|--------------------------|
| Martin Christensen     | 1894 – 1894      | First Mayor of Rio vista |
| J.E. Sullivan          | 1894 – 1908      |                          |
| Martin Christensen Jr. | 1908 – 1922      |                          |
| George C. Gordon       | 1922 – 1932      |                          |
| H.K. “Harry” Stewart   | 1932 – 1933      |                          |
| John Christensen       | 1933 – 1934      |                          |
| Floyd Allender         | 1934 – 1938      |                          |
| Harry Alley            | 1938 – 1946      |                          |
| E.G. Simmer            | 1946 – 1948      |                          |
| Joe Viera              | 1948 – 1952      |                          |
| J.W. Hamilton Jr.      | 1952 – 1960      |                          |
| Val De Flores          | 1960 – July 1964 | Only Mayor Resigned      |
| Sal Fisher             | 1964 – 1972      |                          |
| Milton Wallace         | 1972 – 1980      |                          |
| Jerry Rubier           | 1980 – 1984      |                          |
| Milton Wallace         | 1984 – 1988      |                          |
| Jerry Rubier           | 1988 – 1992      |                          |
| Fred Harris            | 1992 – 2000      |                          |
| Marci Coglianese       | 2000 – 2004      |                          |
| Eddie Woodruff         | 2005 – Present   |                          |

<sup>80</sup> Old papers of Phil Pezzaglia

## **VI- Explanation of some technical words used in the work**

**Associated gas:** *natural gas produced with oil*

**Drilling:** *As the pressure forces the bit into the rock, the rotation of the tool then removes this material. As pressure is continually applied, and rotation is maintained, the bit will continue to evacuate rocks, - this is called DRILLING*

**New field:** *any structurally distinct, producing field discovered since August 1931*

**Non-associated gas:** *natural gas produced without oil*

**Old-field:** *any gas field producing on August 14, 1931*

*For example, in the case of the most recent activity at the well near Church Road (listed a # 139 in the Accommodation Agreement described in XII, Section 1, Calpine reentered the well with a service rig in order to restore the flow of natural gas. Over time, the pathways through which natural gas flows can be constricted by the accumulation of fine sands and other materials. By reentering the well, operators can remove obstacles and improve a well's performance.*

**Maintenance:** *generally refers to activities within an existing well allowing for improved, prolonged, or resumed production.*

**Rotary:** *it can be basically described as the rotation of some hard object (call a BIT) against a rock formation and applying pressure to it.*

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