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Business Capabilities and Resources in Lincoln County - Opportunities in New Developments

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Summary

Lincoln County has the resources of land, minerals, geothermal water, and a history and current business activity that can be built upon for further economic development. A general overview of these capabilities and resources are outlined in this paper. Many of the resources in Lincoln County were not developed for business because the transportation costs to the market were too high. The developments in the southern end of Lincoln County, Coyote Springs and the Lincoln County Land Act development provide a great opportunity for business expansion and development within the county. The potential business opportunities were identified by studying the general requirements for the establishment of the developments and the capabilities of businesses in Lincoln County. There is great potential for new businesses to be established in small specialty areas of work, such as tree production for landscaping and amenities for individual homeowners during house finishing and decorating. There are several barriers to the establishment of businesses in Lincoln County, such as lack of capital, lack of work force, lack of housing and community negative opinion towards business success/growth. All of these barriers must be considered and possibly addressed by a business in order to succeed.

Objective

This publication is intended to provide an overview of the assets and capabilities within Lincoln County to expand or build businesses. The long-term goals for providing this information are:

- Increase business and the number of jobs in Lincoln County
- Capitalize on opportunities arising from the growing population in southern Nevada
- Build on the strengths and abilities of Lincoln County
- Maintain the "peaceful" family orientated lifestyle in Lincoln County

The short-term goal is to identify the business opportunities from the new residential and industrial developments in the southern end of the county that Lincoln County businesses can service.

Background on Lincoln County

A 2005 needs assessment conducted in Lincoln County identified jobs and stable income as the strongest need for the community, family and youth. The study indicated that growing economic development is considered essential to create jobs for the community. The county has a high quality of life as measured in terms of low stress, and a high degree of individual and family support systems. The financial quality of life is considered to be weak in the county and many low-income residents struggle to meet basic necessities, such as housing. There is growing concern on how the community can develop economically without deteriorating the positive lifestyle in Lincoln County.

Economic development is essential for the county. Success will be more likely if businesses are focused in areas where the county has expertise, talents and resources. As well, the new residential and industrial developments in the southern part of the county provide great new opportunity markets nearby. The new opportunity markets should be identified and matched with the capabilities, talents and current businesses of the county to create successful business and job opportunities for residents of Lincoln County. In the event existing businesses are unable or unwilling to expand or diversify to meet the new opportunities, new businesses should be encouraged to expand or relocate to Lincoln County.

Demographics and Location

In 2005, Lincoln County had a population of 3886 living mainly in five small towns: Alamo (428), Rachel, Caliente (1015), Panaca (562) and Pioche (698) (State of Nevada Demographer). These towns are located 90 to 175 miles north/north east from Las Vegas and 90 to 175 miles from St. George, Utah, the top two fastest growing cities in North America. In 2006, the total labor force was 1490 with 70 people unemployed (Nevada Department of Employment, Training and Rehabilitation). The population has a lower average percentage than state and national of college educated individuals and a lower percentage of individuals with less than high school education than the state and national numbers (US Census Bureau, 2000).

The 2004 Lincoln County Labor Market Survey found that as many as 236 people in Lincoln County would work if the right job opportunities were available to them. This report provides a breakdown of the people interested in full-time and part-time work and their education status.

Evaluation of County Capability

Agriculture production capability
Lincoln County has a wide range of different growing conditions. As you travel from south to north, you will pass through desert, gradually increase elevation to high desert and reaching mountainous areas above 8000 feet in the north. The majority of agricultural production occurs in the alluvial valley bottoms, which is also the location of most private land and surface water. There is a wide range of average annual temperatures, heat units and frost free days between the valleys, which allows the growth of a variety of plants, from those with heat preference to those with cool temperature preference. The low-water-use plants adapted to the areas of the developments would likely grow well in the Pahranagat Valley and Rainbow Canyon areas and some may grow in the Rachel, Caliente and Panaca areas.

There can be a great difference in growing conditions within a valley, with different exposures to the sun and cold air down drafts from mountain tops. Hillsides do not have evenings that are as cold as valley bottoms from cold air drafts settling down in the bottom of valleys. A USDA program is available called Parameterelevation Regressions on Independent Slopes Model (PRISM) that can be used to determine more detailed climate conditions for 1-mile-square areas, and it is linked with a vegetative database that will help determine what plants can grow in an area. This resource provides valuable information on the climate conditions for Lincoln County growing areas and that information can be used to identify whether a specific type of plant may be able to grow well in the area over the long run. University of Nevada Cooperative Extension's office in Lincoln County will continue developing information in this area.

The soil characteristics can very greatly within a very short distance because of the wide variation in parent material ranging from acidic volcanic rock to limestone. Most uplands are very rocky, or gravelly in texture. The valleys tend to be finer textured and better for growing. The Pahranagat valley and Panaca valley do have some areas with restrictions as to what can grow well due to the high salt content. Drainage and irrigating the salts away could remove some of this problem but would require collaboration by a large number of landowners and several government agencies. Detailed soil characteristic information is available for the county through the USDA Natural Resource Conservation Service or University of Nevada Cooperative Extension offices in Lincoln County.

Cattle are grazed on the open range throughout the county, with summer grazing in higher elevations and winter grazing in the low elevations and in the southern end of the

county. Most ranch operations produce feeder calves from the natural grass grazing and ship them to distant states' feedlots for finishing. UNCE has started working with producers with interest in natural beef production and grass-fed finished beef production in the county and are investigating the market opportunities for these products in Las Vegas.

Our preliminary investigation into the wine grape industry has found that Tahoe Ridge, a Nevada winery, identified growing areas in the central area of Lincoln County that have a climate suited for grape production for the specialty wines they produce. Possibly, the winery developed at Coyote Springs Investment (CSI) could use these grapes as well.

Natural resources

Mineral availability

Lincoln County has a strong history of mining, which provided huge economic activity in the county until the 1950's. In 1959, Lincoln County ranked fourth among the 17 counties in value from mining operations. In most years it was the largest silver and zinc producer in Nevada and second or third in lead production. In the strong mining years for Lincoln County, 1869 to 1959, $191 million dollars was mined with $167 million of this coming from gold, silver, copper, lead and zinc (Tschanz, C.M. & Pampeyan, E.H. 1970). Tungsten and perlite were also mined as commercial businesses in Lincoln County. Cooperative Extension has a list of historic minerals and non-minerals mined and mining yields in Lincoln County. Perlite is the only mineral mined in any volume in Lincoln County at this time. Pozzolan, a concrete hardening agent, is available from Nevada Natural Pozzolan when the company is operating.

Lincoln County contains a wide variety of valuable minerals. The metals present are: zinc, silver, gold, lead, copper, tungsten and manganese. Mineral deposits of metals still remain in the county but are considered to be too low in concentration or volume for economic development. Further increases in metal prices could change the economics to a favorable situation. There are caldera complexes that may contain deposits of metals, but further mapping and interpretation of these unusual deposits would be required to identify whether or not they contain valuable deposits. Non-metallic minerals (minerals of commercial value that are not metal, gems or petroleum-based) are found in many areas of the county including: perlite, fluorspar, alunite (potash fertilizer), clays (rhyolite, non-swelling montmorillonite, kaolinite, alumina clay), diatomite, silica volcanic ash, vermiculite, gypsum, barite and stone products (quartzite, marble, silicified volcanic rock and limestone).

Lincoln County has several large deposits of perlite and the majority of deposits in Nevada. Perlite that has been expanded with heat treatment has many industrial applications, such as acoustical ceiling tiles and roof insulation board, filter aids, lightweight concrete aggregate, loose fill for concrete block hollows or cavity of walls, plaster aggregates with gypsum or Portland cements,

filler applications for plastics, textured paints and putties, low temperature applications as insulation and the commonly known horticulture uses for water retention and soil improvement (W.E. Benton. 1984). Samples of perlite from different deposits in Lincoln County have been analyzed for their characteristics.

Crushed and building stone can be found in many locations in Lincoln County that could be used for construction, building and ornamental, aquarium rock and decorative rock. Rocks of all colors and types can be sourced including quartzite, colorful sandstones (wonder rock or wonderstone) or limestone and dolomite. There are several quarries which have been mined for building and decorative/ ornamental purposes but business has been limited historically because of the large distance to a market. There are several aluminite, diatomite and flourite deposits that have been quarried but may not reach the quality or cost effectiveness of transporting the material long distances. There are gypsum deposits that could be mined as satellite mines of larger operations. The highest quality gypsum in the county is in Tule Springs near the LCLA area. Several small deposits of barite exist in the county. There are deposits of novelty minerals such as zeolites, agate, marekanite and opaline rock.

The greatest factor that determines whether a non–metallic mineral is worth mining is the distance to market. At present there are no markets for these products near Lincoln County. The majority of manufacturing companies that use these resources are in California or further away. A manufacturing company may find one or more of these minerals of great worth if it were developed or relocated into the area. It could be economical to mine some of these minerals if they were to be used in manufacturing in or near Lincoln County (Stevenson, J.J. & Gersic, J. 1994).

Information on mineral deposits in Lincoln County, including maps of deposits' locations and some deposit sample quality analysis, is available in the University of Nevada Cooperative Extension office in Caliente, Nevada.

Geothermal

J.L Garside from the Nevada Bureau of Mines and Geology provided the following information about geothermal in Lincoln County. Although all of Nevada is considered to have some potential for geothermal resources, southern and southeastern Nevada have a lower potential for high and moderate temperature resources than the rest of the state (for example, see Coolbaugh and others, 2005). With the exception of the hot springs at Caliente, warm springs in Lincoln county have temperatures that range from 20ºC (68ºF) to as high as 32ºC (90ºF). The 20ºC springs are barely anomalously warm, which is generally considered to be 10ºC (18ºF) above the county's average annual temperature of 10-16ºC (50-60ºF). The springs at Caliente, from which the town derives it name, have temperatures up to 62ºC (144ºF), and slightly higher temperatures (67ºC; 153ºF) are found in wells.

The warm springs of Lincoln County are thought to derive their heat from circulation of groundwater to considerable depths (several thousand feet) in fractured carbonate rocks (limestone and dolomite). The circulating water is heated by the higher temperatures found at these depths. This regional circulation system, commonly called the carbonate aquifer, is responsible for the uniform flow rates of many large volume springs in eastern Nevada. The source of heat for Lincoln County's warm springs is thought to be entirely related to the heat of the earth's crust. None of the heat is considered to be related to molten magma in the shallow part of the crust, and no rocks at the surface in Lincoln County are young enough (less than 1 or 2 million years old) to indicate a heat source for subsurface water.

For geothermal fluid temperatures of 80°C or less, the only practical uses are space heating, agriculture (greenhouse, soil heating) or aquaculture (fish farming, etc.). Space heating commonly requires temperatures of 50-100°C, although 40°C water has been used in marginal cases. For heat pumps that extract heat from groundwater, any warm or even cold springs can be used. Other non-electric geothermal uses, such as cooling and industrial processing, normally require temperatures over 100°C, and electric power generation commonly requires temperatures over 150ºC, although 100ºC waters have been used.

With the exception of Caliente, the warm springs of Lincoln County are not hot enough for most uses except fish farming, swimming pools and soil warming. The Caliente geothermal waters have been used for space heating, spas and water for a swimming pool. Although somewhat higher temperatures may be found by drilling in the area of warm springs, many carbonate-aquifer spring waters are not found to be much warmer at depth.

Water

Lincoln County is known to have a good water supply relative to other areas of Nevada. There is water coming from springs in many areas of the county that is used for agriculture production. Water in Lincoln County has been a controversial issue since the Southern Nevada Water Authority (SNWA) placed a claim for about half of the deep aquifer sources. The county itself has developed the Lincoln County Water District to sell water from the other half of the county's deep aquifers, because if the water isn't used, then it can be claimed by an outside agency like the SNWA. The SNWA has plans to start drilling wells and running pipeline in 2007. The pipelines and wells are located across the county and will transport the water to Las Vegas. Some water rights from ranches have been purchased by CSI with plans to pipe it in the SNWA pipeline. Lincoln County Water District has made deals to sell water through Vidler, a private water company, to LCLA, CSI and the Toquop Power Plant. All Lincoln County Water District water will be used in Lincoln County. In theory, the water sold and removed from the deep aquifers will not affect the

quality and quantity of surface water and shallow aquifers used by the current agriculture, industry and towns. In the case of a change in surface water availability, the deep aquifer pumping must stop. One-on-one discussions with key people involved in water issues have found that some people are questioning whether or not the amount and quality of water monitoring set up for Lincoln County is adequate.

Land

Lincoln County only has 2% private land (approximately 136,000 acres). According to the Lincoln County Conservation, Recreation and Development Act of 2004, the BLM will sell up to 90,000 acres for private land use and release 18,000 acres for recreation/parks. Industrial parks are being built in Alamo and Caliente that are available for businesses to build. The county is full of beautiful landscapes for recreation including five state parks.

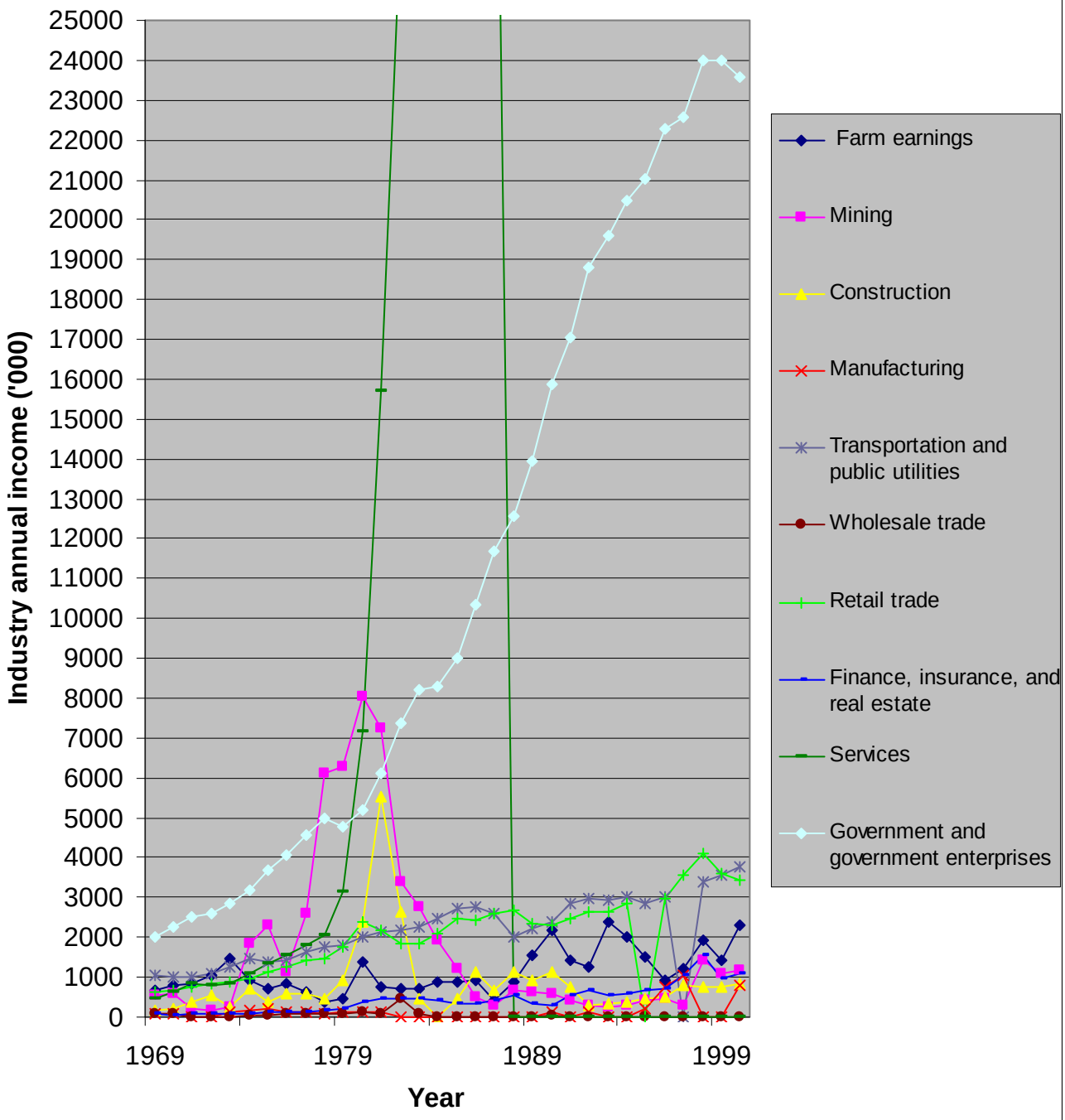
Historic industrial activity

Lincoln County was established in 1866. Initially, the area was inhabited by a few outlaws who pastured their stolen cattle in Pahranagat Valley. The discovery of ore in the Hiko area started the rush of settlers in 1867. Mining activity exploded in the Pioche area in 1871, bringing a further increase of population. By 1900, the population in Lincoln County was 3284. Mining continued to be the economic driver, building small towns in Hiko, Logan City, Pioche and Delamar. Panaca was established in 1864 with a large settlement of Mormons who came to farm with very little means. Caliente, which has the counties largest population, was initially established as a hay ranch to service the Pioche and Delamar mines and then became a railway town with the building of the Union Pacific railway in 1905. With Caliente growing rapidly and with the rail business and mining continuing, the population reached 3489 in 1910. The population dropped by 1920, likely due the loss of men to WWI, but business picked up with mining and the large rail yard at Caliente for the steam engines. The population of Lincoln County reached 3900 by 1952. With the retiring of the steam engines in 1957 and many of the mines closing during the late fifties, the business activity crashed in Lincoln County, resulting in a population decrease to 2038 in 1964. (Population data from the U.S. Bureau of Census).

Business in Lincoln County has remained very limited since the mid-sixties. Figure 1 shows that most industries bring in far less than one million dollars per year. Mining had a bit of an increase again in the late seventies with metallic minerals but since has been dominantly non-metallic minerals. Services activity is usually low but surged for four years to the 27 to 32 million dollar range with a contract for defense programs. Construction had a surge at the same time for the same program. Retail trade, transportation and public utilities have slowly increased over the years. Agriculture has increased slightly but calculations on profit margins from the University of Nevada, Reno indicate the operations are running from very little profit to losses. The only sector that had grown strongly since 1969 is local and state government income.

Lincoln County has little true business money brought into the county on a stable basis that would provide stable jobs. As a result there are few businesses with the size or capital available to service markets larger than the existing local market.

Figure 1. Income per Industry in Lincoln County 1969-2000



Access and infrastructure
A major Union Pacific rail line runs through the county and has sidings at Caliente. Highway 93 runs through the county coming from I-15 near Las Vegas. Highway 375 runs west to Tonopah, 318 runs north to Ely, and 319 runs east to Cedar City, Utah, and I-15. Many wide- and-large-load hauls run though Lincoln County rather than taking I-15.

The county is serviced with high speed Internet by Lincoln County Telephone Systems. Lincoln County Power District supplies the power.

Identification of existing support businesses for construction

According to the State of Nevada Contractor's Board, there are nine licensed contractors and subcontractors in Lincoln County. Most of these are small-scale companies that may not have the manpower, financial resources or business relationships with developers to compete with Las Vegas subcontractors for the work at CSI and LCLA.

Except for True Value/Mountain Mercantile store, which carries a limited supply of construction related materials, Lincoln County does not have any construction material suppliers or fabricators. Starting and operating a large scale construction supply business or fabrication business, (such as roof truss manufacturing), is most likely beyond the scope of the limited resources available to entrepreneurs in Lincoln County.

Products and services Lincoln County could potentially supply to new building developments

When looking at the list of material and amenity needs found at the time of writing this report and matching those with the resources, capabilities and capacity for businesses in Lincoln County, some areas show business potential. The lack of work force in Lincoln County and the limited ability to house additional people greatly limits the size of business, likely to less than 25 employees. This will continue to be the case unless a large increase in housing becomes available. With this limitation on business size, only businesses that excel in a specialized area, such as Jim Wilkin Trucking rock crushing business, will have a chance of competing for business. It would be difficult for current residents to start legal businesses in the construction area, because very few people in Lincoln County possess the years of work experience under a licensed contractor required by the State Contractor's Board to acquire a contractor's license (based on a search of licensed contractors). Other than the established businesses listed above, there would not be much opportunity for new businesses in the general construction area. It could be speculated, based on business size and demand, that there are opportunities for new businesses in providing specialized amenities to the homeowners directly. To succeed in this market, entrepreneurs would have to educate themselves in the latest design and lifestyle trends, create a unique product or service that fits into this and sell their

product. Taking advantage of the county's natural resources, country homespun talents and friendliness would sell well with many of the baby boomers moving into these developments. These people will pay well for health and lifestyles which means homegrown, natural food and natural recreation activities. These are two areas that Lincoln County residents appreciate and know well. Businesses should be aware of competition that already exists in these markets and create a product that meets or exceeds the competition or that is different. Potential and current business owners would benefit greatly from further marketing research and education in business planning and operation.

Identification of local land owners/business owner constraints

Discussions with local business owners revealed the following barriers to business development and expansion in Lincoln County:

- The fear of economic development by local residents must be addressed before new businesses will be supported. Several business people reported that a barrier to business development is locals blocking business development. Residents in all Lincoln County towns indicated they were opposed to newcomers and growth because of the potential to change their way of life. County commissioner meeting minutes show attempts for new businesses to get zoning changes or other county permission to allow a new business to develop were highly disputed by locals, forcing the county commission to refuse the businesses request. Active and successful local businesses are shunned and often are not considered for jobs in the county over outside contactors despite competitive bids. One-to-one discussions with key residents mentioned the fear of change as being a very real barrier to economic development.

- The difficulties in getting financing for new business ventures has been identified as a serious barrier by individuals who have investigated starting new businesses in the county. The high risk status for Lincoln County is commonly known among lenders because of the county's static-to-deteriorating status in economic development, population and job opportunities. The lack of a successful track record for businesses in the county limits the chances for new businesses to get financing. Businesses consider the local banks to be not supportive in new or expanding business ventures. From the lenders view, a good business plan is essential to getting loans and is the major barrier.

- A lack of labor force, especially skilled or educated employees, has prevented the development of working crews to take on new jobs and the expansion of businesses. The demographic

statistics show a very limited labor force in Lincoln County to service the needs of the present population. A local house building contractor recently advertised locally for construction workers and received only five phone calls and two resumes in response to the ads.

- A lack of housing, especially suitable housing for new residents to move into in Lincoln County is evident in every town. There are proposals for new housing developments in Alamo and Pioche that will start relieving this problem.

Future Work

The developments at the southern end of Lincoln County provide a great opportunity for economic development within Lincoln County. The key will be to focus on the county's strengths and address any barriers. The next step to developing and expanding business will be to focus in more detail on the opportunity areas. This can be achieved by acquiring details on the developments as they are produced and educating ourselves on the production and markets of the opportunity areas. UNCE will facilitate the residents' vision and planning for business development and change in the county.

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