MARKET AREA ANALYSIS

Social, economic, governmental, and environmental forces influence property values in the vicinity of a subject property. As a result, they affect the value of the subject property. Therefore, to conduct a thorough analysis, the appraiser must delineate the boundaries of the area of influence. Although, physical boundaries may be drawn, the most important boundaries are those that identify factors influencing property values. Analyzing the market area helps to provide a framework, or context, in which the opinion of property value is developed. The analysis identifies the area of influence and establishes potential limits within which the appraiser searches for data that can be used to apply the approaches to value. Market area analysis also helps the appraiser determine and area's stability and may indicate future land uses and value trends.[3]

Gray County Area Analysis

Location

Gray County is located in the southwest portion of the state of Kansas, in the high plains of the Great Plains. The counties located adjacent to Gray County are Finney County to the north, Hodgeman County to the northeast, Ford County to the east, Meade County to the south, and Haskell County to the west. The cities and towns of Gray County are Cimarron (the largest and the county seat), Montezuma, Copeland, Ingalls, and Ensign. Charleston and Haggard are two other communities within the county that remain unincorporated.

Gray County consists of 869 square miles with a 2000 population density of 7 residents per square mile. Rainfall in Sherman County averages 20 inches per year as compared to the Texas average of 28.1 inches per year.

Population and Economy

As of the 2000 census, Gray County's population was 5,904. The median income for a household in the county was $40,000. The median income for a family was $45,299 with the median for males being $31,519 and females $21,563. The median resident age is 34.86 years were the national average age is 36.22 years.

The history and identity of this region is closely tied to its agricultural roots. Farming has been central to the Kansas economy, politics, laws, innovations, culture, social customs, and traditions. Known as the "Wheat State" and "Breadbasket of the World," Kansas farmers and ranchers continue to feed people around the world. Neither gas nor oil has been discovered in Gray County, Kansas. The only sizable industry in this area other than agriculture is sugar refining. Sugar beets from a wide area in Kansas are shipped to the Garden City Company in Garden City, the only sugar refinery in the State.

Climate and Topography

The climate of this area is of the sub-humid to semiarid type involving slight to moderate precipitation, moderately high average wind velocity, and rapid evaporation. During the summer the days are hot, but the nights are, in general, cool and comfortable. The hot summer days are alleviated by good wind movement and low relative humidity. The winters, as a rule, are characterized by moderate weather with occasional severe cold periods of short duration and relatively little snowfall.

The average mean annual temperature in Gray County is 54.7 degrees Fahrenheit. The highest temperatures occur during the three summer months, the monthly mean being 73.4 degrees in June; 78.6 degrees in July; and 77.6 degrees in August. January and December are generally the coldest months, the mean monthly temperature being 30.9 degrees in January and 31.8 degrees in December. The average growing season, that is the average interval between the last killing frost in the spring and the first killing frost in the fall, is about 173 days, and has ranged from about 135 to 200 days.

The mean annual precipitation at Cimarron is 21.43 inches. Deviations from the mean, however, are frequent. At Cimarron, the recorded annual precipitation has ranged from a minimum of 10.68 inches in 1934 to a maximum of 35.33 inches in 1928. A large proportion of the precipitation falls as torrential rains that are separated by long dry periods. About 75 percent of the total annual precipitation falls during the crop-growing season from April through September. The normal rainfall during June, the wettest month, is about 3.15 inches; during January, the driest month, it is only about 0.35 inch.

The terrain is generally a nearly level, treeless, plain. Elevation in the area ranges from 2,500 to 2,900 feet above sea level. The smooth plain is broken by the Arkansas River, which runs west to east through the center of the County. There are also numerous shallow depressions, or play lakes, which hold water during periods of above average rainfall. Soils in the area are predominantly loams and clay loams formed under grass vegetation. An area of undulating sandhills lies in a band which varies from three to ten miles along the South side of the Arkansas River.

Agriculture

Although known best for its wheat production, Gray County farmers raise many other important crops. Corn, hay, oats, grain sorghum, barley, and sugar beets are important to the agricultural businesses and the Kansas economy. The livestock industry has also been important to the agricultural economy. This industry includes cattle drives, packing houses, and large ranches. Raising and caring for various kinds of animals has long been a vital part of the general farm industry. Mixed farming (grain and livestock) is the predominant form of agriculture in the state. Hogs, sheep, dairy cows, work animals, and poultry make up the majority of the livestock raised on the Gray County farms and ranches.

Transportation

The Gray County area is served by a main line of the Atchison, Topeka, and Santa Fe Railway. It follows the Arkansas River Valley and passes through Cimarron, Ingalls, Charleston, Pierceville, Garden City and Holcomb. A branch line crosses the Southern part of Gray County and served Ensign, Haggard, Montezuma, and Copeland. This line runs from Dodge City to a junction at Satanta in Haskell County, from which one branch goes southwestward to Boise City, Oklahoma, and the other branch goes westward to Pritchett, Colorado.

Several hard-surfaced federal and state highways pass through Gray County. U.S. Highway 50 follows the Arkansas River Valley eastward to Garden City. State Highway 23 passes from north to south through Cimarron, and State Highway 45 crosses the Southern part of Gray County from northeast to southwest, passing through Ensign, Montezuma, and Copeland.

In addition to the hard-surfaced highways, the area has many county roads which are graveled and kept in passable condition throughout the year. Gravel or dirt roads are found on nearly every section line. Although such roads become temporarily impassable at different times of the year owing to drifting sand, snow, or mud, they are generally in good condition.

Physical Characteristics

Location

The property is located north of Cimarron, along State Road 23 and County Roads 16, 17, 19, 20, 22, B, C, D, E, F, G, H, L and M, in Gray County, Kansas.

Size & Shape

The subject property is a non-contiguous 3,920.0 acre irrigated farm with 14 center pivot irrigation systems, dwellings and farm structures. Approximately 2,430.0 acres of the farm is irrigated; 1,470.0 acres is in dry corners, dryland cropland and CRP; and 20.0 acres is farmstead area. Some of the corners are cultivated and some have been planted in grass. Since the corners are all dryland, and cash rental values or similar to CRP payments, they will be treated as dryland cropland corners for this analysis.

Frontage and Accessibility

The property is located north of Cimarron, along State Road 23 and County Roads 16, 17, 19, 20, 22, B, C, D, E, F, G, H, L and M, in Gray County, Kansas.

Topography

The topography of the subject site is mostly level. There appears to be enough slope to allow for adequate surface water drainage.

Flood Plain

Gray County does not participate in the National Flood Program. There are no floods maps available for Gray County, Texas. According to the USDA NRCS soil survey, there are no frequently flooded soils associated with the property. Drainage appears adequate. A current survey is required for exact flood determination.

Soil

According to the USDA Soil Survey, the majority of the soils in the area of the subject property are:

2612 - Harney silt loam, 0-1 percent slopes
2801 - Spearville silty clay loam, 0-1 percent slopes
2800 - Spearville complex, 1-3 percent slopes, eroded
1761 - Richfield silt loam, 0-1 percent slopes
2814 - Uly silt loam, 0-1 percent slopes
2750 - Penden clay loam, 7-15 percent slopes
2747 - Penden clay loam, 3-7 percent slopes
2748 - Penden clay loam, 3-7 percent slopes, eroded
2815 - Uly silt loam, 1-3 percent slopes
1859 - Ulysses silt loam, 3-6 percent slopes
1762 - Richfield silt loam, 1-3 percent slopes
2714 - Ness clay

These soils are nearly level to gently rolling soils that are deep. Overall, the soils appear to be average for the area.

Utilities

All basic rural public utilities are available to the subject property in adequate capacity to serve most uses of legal development. The utilities include public electricity and telephone service, private water wells, propane, natural gas, and private septic systems. There is no natural gas available at the subject site. Utilities are provided by:

Electric:	Westar Energy
Water:	According to the owner-operator, and the Southwest Kansas Groundwater Management District No. 3, there are approximately 15 irrigation wells located on the property that service 14 center pivot irrigation systems. There are also some domestic wells that service the dwellings. See the well information and water rights obtained from the SKGMD. According to the attached well logs, the wells are approved to pump from 265 to 1,085 gpms. These numbers vary slightly but correspond with the owners calculations.

	According to the Water District Saturation Map, the subject is located in an area of water saturation that is approximately 75 to 125 feet thick. The water on portions of the subject farm is assumed to be adequate for the operation of an irrigated farm, dairy, feedyard, or for domestic usage. This is evident based on the adjacent dairies, farms and feedyards.
Sewer:	Rural septic systems
Natural Gas:	Kansas Natural Gas and Private Propane Companies
Telephone:	AT&T

Improvements

The main structural improvements are located on Section 25, T24S, R28W. The improvements on the west side of this section include: a 1.5 story, brick veneer 2,482 square foot main dwelling with a 410 square foot attached garage; a steel construction 625 square foot detached garage; a 192 square foot storage building; a steel construction 2,424 farm equipment building and office; a steel construction 3,504 square foot farm machine shed / shop; a steel construction 5,100 square foot farm equipment shed with a 1,700 square foot open sided attached shed; a steel construction 3,060 square foot farm equipment shed; a wood frame 1,412 square foot dwelling with a 300 square foot attached garage; cattle working and shipping pens; and numerous site improvements. The improvements on the east side of this section include: a wood frame 2,360 square foot dwelling with basement and attached 400 square foot garage; a wood and metal construction 1,120 square foot farm shop building; a wood and metal construction 1,170 square foot farm shop building; an 83,000 bushel (per owner) grain storage facility with leg and dump pit; and miscellaneous site improvements. One other structural improvement including a steel construction 2,400 square foot farm equipment building is located on the NE/4 of Section 12, T25S, R28W. The structural improvements ranged in effective age from 5 to 20 years.

The subject farm includes 14 on site center pivot irrigation systems ranging from 7 to 14 towers. All of the pivots are Zimmatic except for one pivot which is a Valley. They range in age from 1987 through 2004. According to the owner, all of the pivots have been reworked and updated and are in very good condition. Because of the good condition of the pivots, an effective age of 5 years was given to the pivots.

The irrigated tracts are improved with approximately 15 irrigation wells, pumps, motors, gearheads, pivot pads and utility connections. Additional site improvements include parking, roads, water lines, and septic systems. The following is a general description of the pivots and well information.

Subject Pivot and Well Information								
Parcel	Section - Township - Range	Total Acres	Irrigated	Non-Irrigated Dry Crop and or CRP	Farm-stead Area	Wells	Pivot	Type of Irrigation
N/2 NW/4	18-24-27	80	80	0	0	Watered by well on Sec. 13	None	Drip Irrigated
NE/4	13-24-28	160	120	40	0	2 x 500 GPMs	1989 Zimmatic	1 x 8 Tower
SW/4	18-24-27	160	0	160	0	None	None	Dryland
SW/4	24-24-28	160	120	40	0	1 x 500 GPM	1990 Zimmatic	1 x 8 Tower
All	25-24-28	640	500	122	18	4 x 300 GPM	1990-1997 Zimmatics	4 x 8 Tower
SW/4	30-24-27	160	120	40	0	Watered From Lagoons	None	Pad, Lines, Elc.
W/2	31-24-27	320	240	80	0	2 x 250 GPM	1991-2001 Zimmatics	1 x 7 Tower 1 x 8 Tower
All	1-25-28	640	500	140	0	1 x 800 GPM	1997 Zimmatic	1 x 14 Tower
NE/4	12-25-28	160	120	38	2	1 x 500 GPM 1 Domestic	1987 Valley Equip. Shed	1 x 8 Tower
N/2	34-25-28	320	240	80	0	1 x 1,400 GPM	1987-2004 Zimmatics	2 x 7 Tower
E/2 E/2 W/2	31-25-28 32-25-28	480	270	210	0	2 x 700 GPM	1996 Zimmatic	1 x 12 Tower
SW/4	3-24-27	160	0	160	0	None	None	All Dry
N/2	30-24-27	320	0	320	0	None	None	All Dry
NW/4	24-24-28	160	120	40	0	1 x 500 GPM	1990 Zimmatic	1 x 8 Tower
Total Acres		3,920	2,430	1,470	20			

Surrounding Uses

A visual inspection of properties located within the immediate subject area revealed irrigated agricultural farmland, dryland farms, dairies, feedyards, and scattered rural homesites. Also, there are grain elevators and livestock grazing operations in the surrounding area.

Summary and Conclusions

The subject farm is located in an area of similar uses. The subject farm is similar size, shape, topography and productivity to other sites in the area. The farm has all necessary utilities which are adequate for its present use.

The subject property is a non-contiguous 3,920.0 acre irrigated farm with 14 center pivot irrigation systems. Approximately 2,430.0 acres of the farm is irrigated, 1,470.0 acres is in dry corners, and 20.0 acres is farmstead area. Some of the corners are cultivated and some have been planted in grass. Since the corners are all dryland and cash leases are similar to CRP payments, the dry areas will be treated as dryland cropland corners for this analysis. The property is irregular in shape and non-contiguous.

The regional location of the irrigated farm is considered to be very good. There are many other irrigated farms in the area along with a high concentration of dairies and feedyards. Accessibility is good with ingress and egress from State Road 23 and numerous county roads. The easements that exist are typical of other sites in the area and neither restrict the use or development of the subject, nor have a negative effect on its value. Given its size and use, the site is considered relatively consistent with the immediate area and provides average to good functional utility. *The site is suitable for its current use as an irrigated farm.*

Physical Characteristics

Location

The property is located north of Cimarron, and east of State Road 23 along County Roads G, F, E, 20 and 21, in Gray County, Kansas.

Size & Shape

The subject property is a contiguous 1,040.0 acre irrigated and dryland cropland farm with 4 center pivot irrigation systems and supporting wells. Approximately 465.0 acres of the farm is irrigated with the remaining acreage being dryland cropland and dry corners. All dryland areas will be treated as if dry corners.

Frontage and Accessibility

The property is located north of Cimarron, and east of State Road 23 along County Roads G, F, E, 20 and 21, in Gray County, Kansas.

Topography

The topography of the subject site is mostly level to gently rolling. There appears to be enough slope to allow for adequate surface water drainage.

Flood Plain

Gray County does not participate in the National Flood Program. There are no floods maps available for Gray County, Texas. According to the USDA NRCS soil survey, there are no frequently flooded soils associated with the property. Drainage appears adequate. A current survey is required for exact flood determination.

Soils

According to the USDA Soil Survey, the majority of the soils in the area of the subject property are:

2612 - Harney silt loam, 0-1 percent slopes
2801 - Spearville silty clay loam, 0-1 percent slopes
2800 - Spearville complex, 1-3 percent slopes, eroded
1761 - Richfield silt loam, 0-1 percent slopes
2814 - Uly silt loam, 0-1 percent slopes
2750 - Penden clay loam, 7-15 percent slopes
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1859 - Ulysses silt loam, 3-6 percent slopes
1762 - Richfield silt loam, 1-3 percent slopes
2714 - Ness clay

These soils are nearly level to gently rolling soils that are deep. Overall, the soils appear to be average for the area.

Utilities

All basic rural public utilities are available to the subject property in adequate capacity to serve most uses of legal development. The utilities include public electricity and telephone service, private water wells, propane, natural gas, and private septic systems. There is no natural gas available at the subject site. Utilities are provided by:

Electric:	Westar Energy
Water:	According to the owner-operator, and the Southwest Kansas Groundwater Management District No. 3, there are approximately 4 irrigation wells located on the property that service 4 center pivot irrigation systems. See the well information and water rights obtained from the SKGMD. According to the attached well logs, the wells are approved to pump from 475 to 1,070 gpms. These numbers vary slightly but correspond with the owners calculations of 500 to 600 gallons per minute.

	According to the Water District Saturation Map, the subject is located in an area of water saturation that is approximately 75 to 125 feet thick. The water on portions of the subject farm is assumed to be adequate for the operation of an irrigated farm, dairy, feedyard, or for domestic usage. This is evident based on the adjacent dairies, farms and feedyards.
Sewer:	Rural septic systems
Natural Gas:	Kansas Natural Gas and Private Propane Companies
Telephone:	AT&T

Improvements

The subject site is improved with 4 Zimmatic center pivot irrigation systems supported by wells, pumps, motors, gearheads, pivot pads and utility connections. Two pivots are quarter mile pivots that water approximately 120 acres each. One pivot is slightly larger than a quarter mile and waters approximately 150 acres. The four pivot is slightly smaller than a quarter mile and waters approximately 75 acres. Approximately half of the pumps are driven by electric motors and half are driven by diesel motors. There are no structural improvements with contributory value located on the site. Because of the average to good condition of the pivots, an effective age of 10 years was given to the pivots.

The irrigated areas are improved with approximately 4 irrigation wells, pumps, motors, gearheads, pivot pads and utility connections. According to the owner, the wells pump approximately 500 to 600 gallons per minute. Additional site improvements include parking, roads, water lines, and septic systems.

Surrounding Uses

A visual inspection of properties located within the immediate subject area revealed irrigated agricultural farmland, dryland farms, dairies, feedyards, and scattered rural homesites. Also, there are grain elevators and livestock grazing operations in the surrounding area.

Summary and Conclusions

The subject farm is located in an area of similar uses. The subject farm is similar size, shape, topography and productivity to other sites in the area. The farm has all necessary utilities which are adequate for its present use.

The subject property is a contiguous 1,040.0 acre irrigated and dryland cropland farm with 4 center pivot irrigation systems and supporting wells. Approximately 465.0 acres of the farm is irrigated with the remaining acreage being dryland cropland and dry corners. All dryland areas will be treated as if dry corners.

The regional location of the irrigated farm is considered to be very good. There are many other irrigated farms in the area along with a high concentration of dairies and feedyards. Accessibility is good with ingress and egress from numerous county roads. The easements that exist are typical of other sites in the area and neither restrict the use or development of the subject, nor have a negative effect on its value. Given its size and use, the site is considered relatively consistent with the immediate area and provides average to good functional utility. *The site is suitable for its current use as an irrigated farm.*