

Inactive Coal Mines and Georeferenced Maps Raton Basin, Colfax County, New Mexico



Coal mine, tipple, and railroad at Van Houten, New Mexico, ca 1910.
Photo by W.T. Lee, U.S. Geological Survey, New Mexico Bureau of Geology Photo Archive Collection.

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Introduction

The Raton Basin is a geologic structural basin covering parts of southeast Colorado and northeast New Mexico (Fig. 1). The basin has been a source of coal and more recently coalbed methane in both Colorado and New Mexico for about 150 years. The coal-bearing areas in New Mexico are referred to as the Raton coal field with several districts defined by Pillmore (1991). This report on the inactive coal mines in the Raton Basin of northeast New Mexico combines all the known mine maps, coal mine reports, and coal mine photographs in the New Mexico Bureau of Geology's collection. The ArcMap project presents the mine maps, mine locations and associated data in a geographical form.

The first mention of coal in New Mexico was in 1803 (Jones, 1904, p. 211). Coal was discovered in the Raton coal field by the Long expedition in 1821 (Lee and Knowlton, 1917) and coal mining began for local domestic use in the 1870s. With the arrival of railroads in the early 1880s coal mining expanded to a commercial scale in the Raton field, providing coal to the trains travelling from Denver to Santa Fe and Albuquerque over the Raton Pass. The high quality coal from the Raton field was used by the railroads and smelters throughout the Southwest. Several large coal camps were established by the larger coal companies, such as Raton Coal and Coke and Stag Canon Fuel, adjacent to their mines in the Raton field. Most of the early coal development was along the southern edge of the Raton Basin in the coal beds near the base of the Vermejo Formation. The Gardiner-Blossburg, Van Houten, Koehler, and Dawson coal mines all produced from the Vermejo Formation (Fig. 2). The Sugarite and Yankee mines east-northeast of the town of Raton (Fig. 2) produced from the Raton Formation in the early 1900s.

The railroads, smelters, and local fuel needs kept many of the mines in the Raton field open until after World War II. A few of the small underground mines continued to operate until the late 1960s – early 1970s. However, the change from coal to diesel for the railroads and to natural gas for home heating, along with more stringent regulations, forced most of the small coal operations to close in the late 1970s.

In 1955, Kaiser Steel acquired 530,000 acres from the St. Louis and Rocky Mountain Pacific and took over the underground mine at Koehler (Koehler Mine Complex; Fig. 3) to supply coal to their steel mills in California. The company began an extensive exploration program and determined the York Canyon region, northwest of Koehler had the greatest

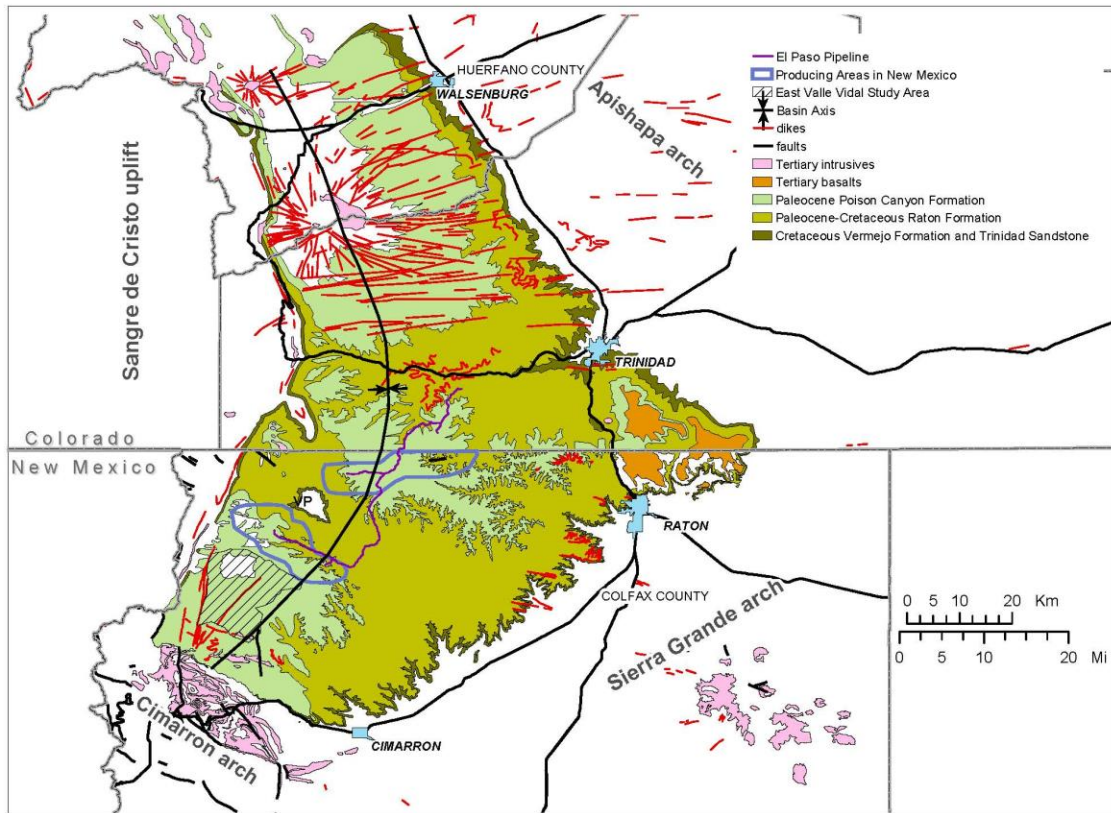


Figure.1 Geologic and structural features of the Raton Basin, Colorado and New Mexico. Geology derived from the New Mexico Bureau of Geology and Mineral Resources (2003) and Tweto (1979).

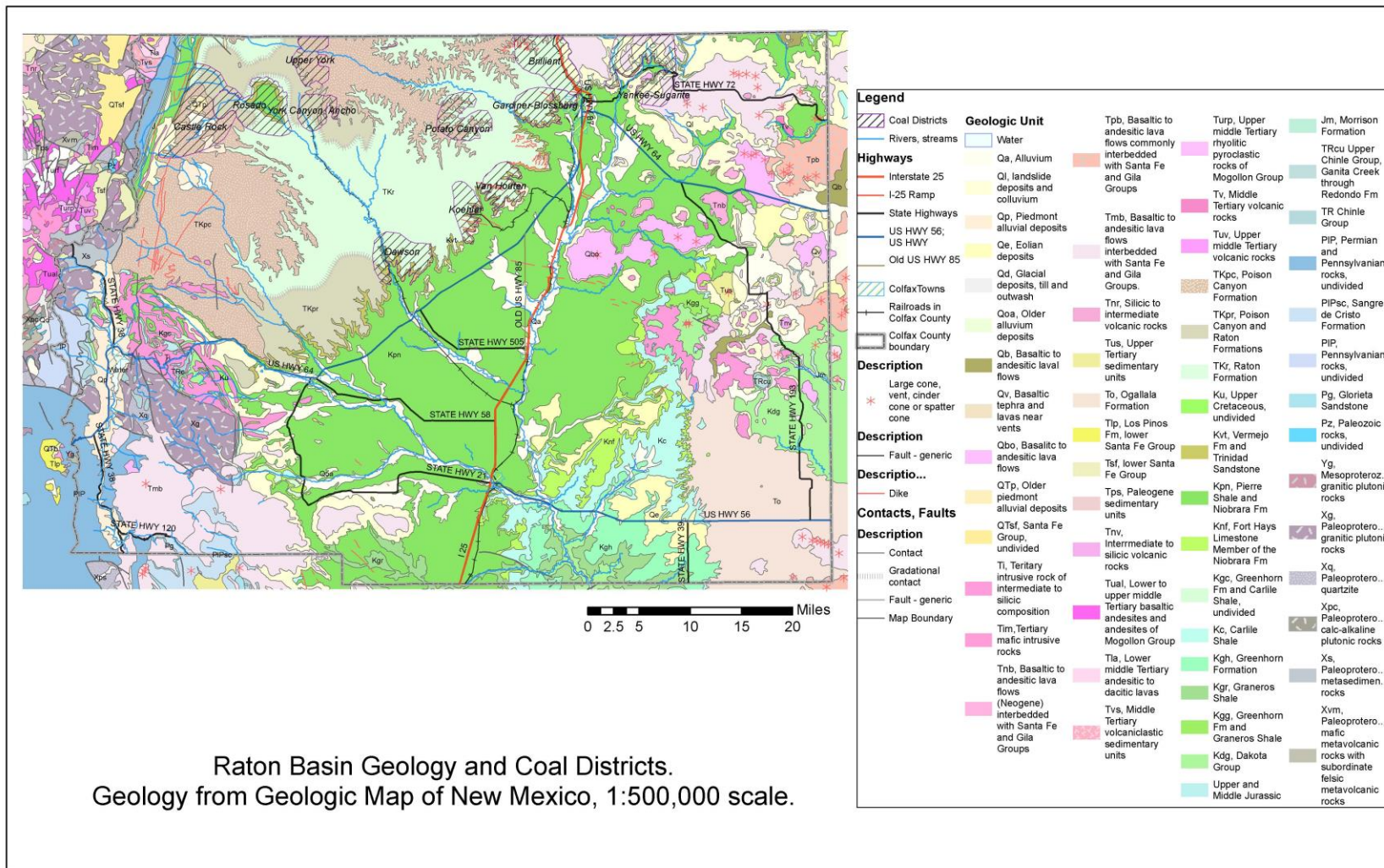


Figure 2. Raton Basin Geology and Coal Districts. Geology derived from New Mexico Bureau of Geology and Mineral Resources (2003) and coal districts from Pillmore (1991).

potential for development. By 1966, a rail spur was in place to the York Canyon area (Fig. 3) and Kaiser began underground mining. This company subsequently opened the West York surface mine in the York Canyon area in 1972. The Kaiser Steel operations in California closed in 1983 and the York Canyon mining operations were shut down at this time. Pittsburg and Midway (P & M), a subsidiary of Chevron, acquired Kaiser's coal reserves in the Raton Basin in 1989; including the West York Canyon surface and Cimarron underground mines. P & M did extensive renovations to the existing mines and began their own intensive exploration program. P & M submitted a mine plan for the Ancho, East Ridge and Road Canyon surface mines in 1993 located in the York Canyon, Ancho and Upper York coal districts (Fig. 2, 3). The coal was marketed for electrical generation and shipped by rail to a power plant in Wisconsin. The East Ridge, Road Canyon and West York mines closed in 1994. The Cimarron underground mine closed in September 1995 because of problems with faulting and increased methane within the mine. Extensive overhaul of the ventilation system would be required to deal with the methane to continue operation. The Ancho surface mine (Fig. 3) continued to operate until 2002 when the surface reserves became too expensive to mine. P & M sold their holdings in the Raton field to Ted Turner and are now part of the Vermejo Park Ranch (Fig. 4). From 1888 to 2002 over 104.7 million short tons of coal were produced from mines in the Raton coal field.

The Raton Basin and the coal-bearing sequences have been well documented by Pillmore (1991) and Lee (1924). A summary of previous geologic work and mining history is given in Hoffman and Jones (2005). Charles Pillmore and Romeo Flores have published many articles on the Raton Basin and a search of the Bibliography of New Mexico for these authors and the Raton Basin will retrieve many references (<http://geoinfo.nmt.edu/search/bibliography/home.cfm>).

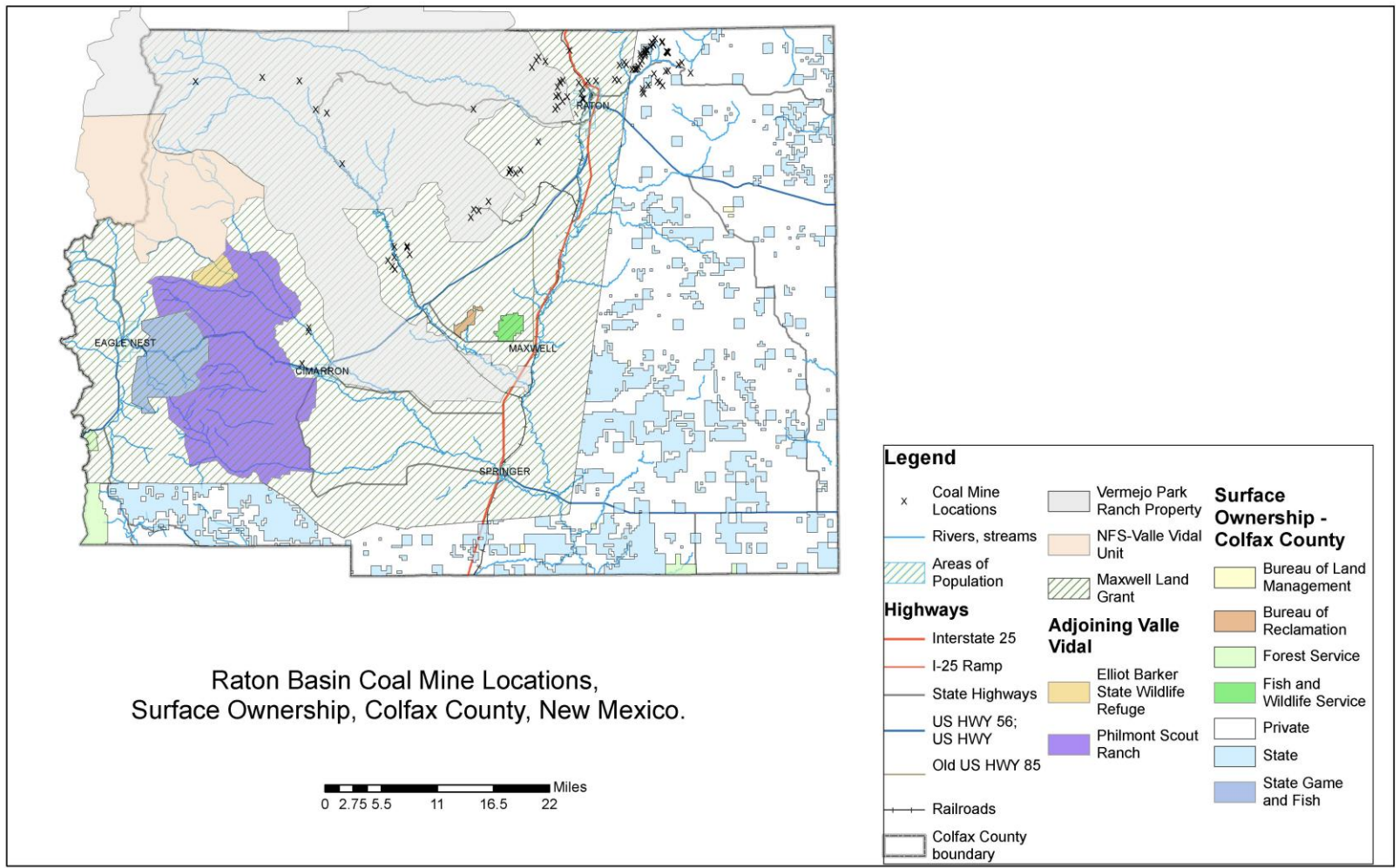


Figure 4. Raton Basin mine locations and surface ownership, Colfax County, New Mexico.

Coal Geology

The Raton Basin has two major coal-bearing sequences, the Vermejo and Raton formations. Within these formations, several coal zones are recognized. A generalized cross section of the Upper Cretaceous through Paleocene rock units in the Raton Basin with brief descriptions of the units is seen in Figure 5.


AGE		FORMATION NAME	GENERAL DESCRIPTION	LITH- OLOGY	APPROX. THICKNESS IN FEET
TERTIARY	PALEOCENE	POISON CANYON FORMATION	SANDSTONE—Coarse to conglomeratic beds 13–50 feet thick. Interbeds of soft, yellow-weathering clayey sandstone. Thickens to the west at expense of underlying Raton Formation		500+
		RATON FORMATION	Formation intertongues with Poison Canyon Formation to the west		0(?)–2,100
UPPER COAL ZONE—Very fine grained sandstone, siltstone, and mudstone with carbonaceous shale and thick coal beds					
BARREN SERIES—Mostly very fine to fine-grained sandstone with minor mudstone, siltstone, with carbonaceous shale and thin coal beds					
MESOZOIC	UPPER CRETACEOUS	VERMEJO FORMATION	LOWER COAL ZONE—Same as upper coal zone; coal beds mostly thin and discontinuous. Conglomeratic sandstone at base; locally absent		← K/T boundary
		TRINIDAD SANDSTONE	SANDSTONE—Fine to medium grained with mudstone, carbonaceous shale, and extensive, thick coal beds. Local sills	0–300	
		PIERRE SHALE	SANDSTONE—Fine to medium grained; contains casts of <i>Ophiomorpha</i>	1800-1900	
			SHALE--Silty in upper 300 ft. Grades upward to fine-grained sandstone. Contains limestone concretions		

Figure 5. Generalized cross section from Flores and Bader (1999). Modified from Pillmore (1969), Pillmore and Flores (1987) and Flores (1987).

Coal beds occur at the base of the Vermejo Formation within 50 ft of the Trinidad Sandstone. These coals are often called the Raton Coal Bed of Vermejo Formation in Lee (1924) and in the early mine inspector reports (Fig. 6). This coal bed was mined extensively in the early coal mines along the edge of the Raton Basin where the Vermejo Formation outcrops. The upper coal zone in the Vermejo Formation is called the Vermejo Coal Bed (Fig. 6). The coal bed nomenclature on Figure 6 is used in Lee (1924) and most of the geologic information for the individual mines comes from Lee (1924) and various Territorial Mine Inspector Reports. Consequently, the term Vermejo Formation, Raton Coal Bed is used in the CoalMines database.

This naming is rather confusing and in Hoffman and Jones (2005) the coals in the Vermejo Formation are referred to as the lower Vermejo coal zone (aka Raton Coal Bed) and the upper Vermejo coal zone (aka Vermejo Coal Bed). The upper and lower terminology is used in the Coal Data Points database.

The Raton Formation has several coals beds. The nomenclature for the Raton Formation coals in Figure 6 is used in both the Coal Mines and Coal Data Points databases. The Sugarite bed in the lower part of the Raton Formation was mined at the Sugarite mines northeast of Raton. The York Canyon bed in the central part of the field is one of the thicker coal beds in the Raton Formation and was mined extensively at the P & M York Canyon Complex mines.

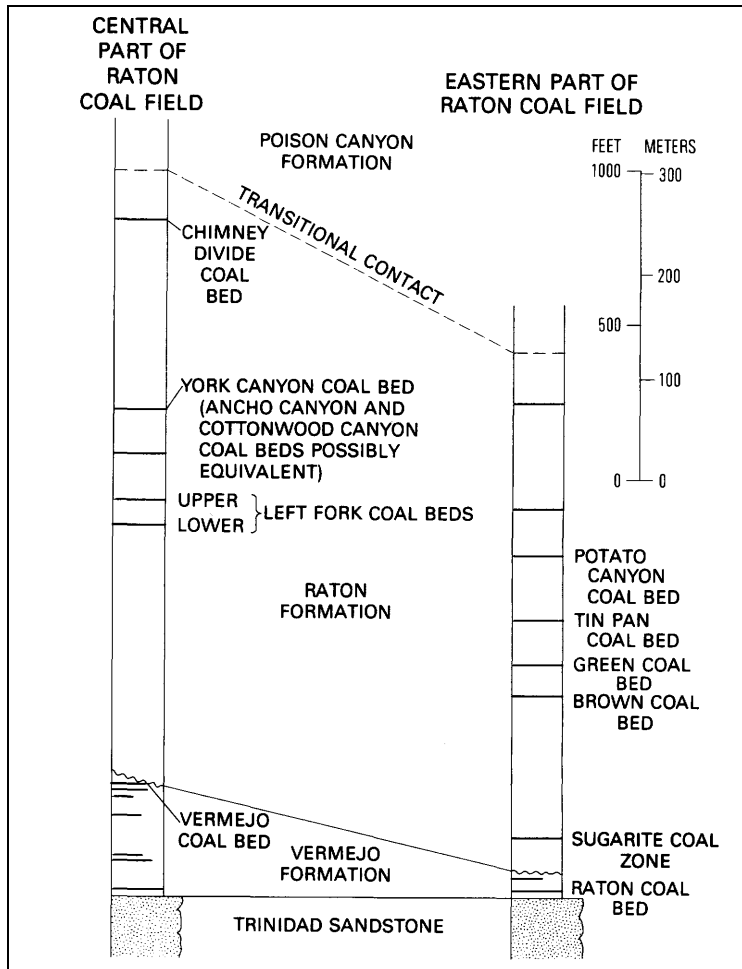


Figure 6. Diagrammatic stratigraphic section showing relationship of coal beds in the central and eastern parts of the Raton field, New Mexico. From Pillmore, 1991, p. 65.

Rationale for Study

Many of these old underground mines in the Brilliant and Gardiner-Blossburg districts (Fig. 1, 2) are near the town of Raton. Other abandoned mines are near Interstate 25 and State Highway 72 and may impact future development. Future urban growth above these underground coal mines require environmental issues be addressed including subsidence issues, environmental concerns from underground coal mine fires or presence of methane.

To address the specific safety and environmental concerns detailed knowledge of the underground mine workings and location of mine openings, shafts, and adits are needed by regulatory agencies, developers and concerned citizens. A layer in the ArcMap project shows city boundaries from the Census Bureau's TIGER/line files. This layer helps the user see the relationship between abandoned mines and populated areas.

Another factor within the Raton coal field is the prominence of coalbed methane development in the area (Fig. 1). Coalbed methane wells are in the deeper part of the basin. Knowing the locations of old mine workings in an area before drilling is important information for exploration and development.

The Raton area has a rich history of coal mining and the city has made a concerted effort to keep this knowledge alive through the photo collection and artifact displays at the Raton Museum. The National Rifle Association's Whittington Center south of town on US 64 encompasses the Van Houten mine area and some of the remaining structures are accessible through the visitor's center. South of the Whittington Center, the cemetery at Dawson is accessible via a dirt road that intersects US 64. The Dawson mines were the site of two major coal mine disasters and the people who lived in Dawson and their ancestors have helped to maintain the cemetery. The Sugarite Canyon State Park, northeast of the town of Raton is centered on the old mining camp. The visitor's center is the old Post Office for the camp and visitors can take a self-guided tour through the old mining camp. The georeferencing of the old coal mine maps adds to this legacy of coal mining in the Raton area by locating the mines and showing the areas impacted by underground workings.

Coal mine data such as geology, production, and location elements are compiled in a Microsoft Access Database (CoalMines.mdb) for the georeferenced mine maps in the ArcMap Project. PDF's of all the mine maps, mine reports, and jpeg images are accessible in the database or directly from folders on the DVD. The location, geology, mine development and coal

production data are linked to coal mine locations in the ArcMap project from tables in the Access database. Not all mines could be located by latitude and longitude and these are not displayed in the ArcMap project, but they are included in the CoalMines database. Where coal maps are available, the pdf is hyperlinked to the mine location in ArcMap. A second database has data primarily from drill holes with coal depths and stratigraphic information that are presented in the ArcMap project as Coal Data Points. The coal thickness and stratigraphic data are linked to the coal data points in the ArcMap project.

Coal Mine Database

(CoalMines.mdb)

There are 103 known coal mines in the Raton Basin with entries in the Coal Mine database.

Data includes:

- Location data
- PDF (OCR'd) Reports from the Abandoned Mine Land Survey in 1980
- PDF's of the mine map where available
- Geologic information (host rock, host formation, rock type)
- Mine Development & Production data
- Production from Territorial Mine Inspector or State Mine Inspector Reports
- Photographs with accompanying captions.
- References

Methodology

The database for this project is a subset of the CoalMines database for inactive mines housed at the New Mexico Bureau of Geology. The basis for most of the information in the database is from the work done for the Abandoned Mine Lands Survey (AML) conducted in the late 1970s by geologists at the New Mexico Bureau of Geology and Mineral Resources (then the New Mexico Bureau of Mines and Mineral Resources). During this project locations were field checked, openings photographed, and located on topographic maps. The histories of the mines

were compiled by Howard Nickelson who had worked for the Conservation Division of the US Geological Survey in Carlsbad, New Mexico (see preface in Nickelson, 1988).

Locations for the mine records in the database are primarily from Nickelson (1979); these locations are given in the Public Land Survey System (PLSS: Township, Range, and Section) with distances from north line and east line of the section at the beginning of each mine description. In the Raton field many of the mines are within the Maxwell Land Grant (Fig. 4) where there is no PLSS. Although the AML survey located the mines on topographic maps, Nickelson's unpublished notes (1979) were used as the final source when there was a discrepancy in location. Originally, the latitude and longitude of the AML mine locations were determined by locating the points on topographic maps and calculating the latitude and longitude by hand. For this study the locations were rechecked and latitude and longitude determined by projecting the data points into AllTopo. Decimal latitude and longitude locations were projected into ArcMap using NAD83 and rechecked with the georeferenced AML topographic maps.

Mine locations and names of the mines, production information, ownership, were checked against data in the MILS dataset (Causey, J. D., 1998). MILS data was brought into ArcMap and the points were compared with the points projected from the CoalMines database locations. In some cases the MILS dataset used the center of a section for the location, when no more accurate location was available. The Nickelson (1979) location was used when there was a discrepancy.

The NMBG Coal Data Library houses printouts from the MILS including references for their mine data. Discrepancies between MILS and data entered into the CoalMines database were checked by going back to the original source of the data, such as Lee (1924) or the Territorial mine inspector reports.

The Territorial (1882-1911) and State Mine Inspector (1912-1962) were checked for mine names, owners, mine development and production data. This data is included in the CoalMines database. Geologic and other information about these inactive mines was gleaned from Lee (1924) on various areas of the Raton Basin. The Territorial Mine Inspector reports and other publications listed in the References field for individual mines in the CoalMines database often have maps showing mine locations. These references helped to locate many of the mines when locations from Nickelson were vague.

The AML survey project produced individual mine notes (Nickelson, 1979) with field photographs, historical information, and problems that needed reclamation. These unpublished notes are housed in the NMBG Coal Data Library and have been scanned into pdf format. The individual mine pdfs are associated to mine record in the CoalMines database. These pdfs can be accessed by clicking on the “Open AML Notes” control on the main form in the database.

Mine fires or subsidence is noted on the Environmental tab of the CoalMines database form and further information is noted in the Mine History field on the Mine Development tab. Analyses on mine samples found in the literature are listed in fields on the Environmental tab form. These data were compiled from a variety of sources and references are listed for the individual mine. A complete reference is accessible from the main CoalMines form through the “Open Reference Table” control button.

The Geologic Information Center (GIC) houses the old coal mine maps and these have been scanned and catalogued in the NM Map database, managed by Maureen Wilks. The most up-to-date map available for a mine was used for georeferencing in the ArcMap project. Each map was brought into ArcMap and referenced by points on the map to the respective point on the topographic base maps. Further description of how these maps were georeferenced is in the map layer properties description. If a mine map is available, a pdf can be opened through a control button on the CoalMines database form via the Location data tab sub form for coal maps (CoalMaps_GICfrm subform) by using the “Open Map PDF” control button. A pdf of the associated mine map can also be opened from the Coal Mine Location point in ArcMap using the hyperlink tool.

Within the CoalMines database there is an audit trail to track changes for each record. In the upper right hand corner of the main form a control button (View Changes to Record) allows the user to view the changes for each record. A query in the CoalMines database named DeletedRecords_from_AuditTable allows the user to see the deleted records. Usually a note is entered in the Comment field to indicate the reason for deletion. Deletion occurs if a record is a duplicate or no reference can be found for the entry.

Coal Data Points Database

(Raton06022015.mdb)

This database contains non-confidential data for the Raton Basin from coal and coalbed methane exploration wells. The data points were projected in the ArcMap project from the Location table using NAD83 Geographic Coordinate System with decimal latitude and longitude. The Lithology and Stratigraphy tables in the database are related to these projected points. Using the information button in ArcMap and clicking on a point, the user can see the bore name (well name), source of data and location information. The user can drill down and find coal thickness and depth data and tops of stratigraphic units. The database can be opened separately through MS Access and forms are available to display and query the data.

ArcMap Project Contents

(Raton033015NAD83.mxd)

Description of layers in ArcMap and ArcReader projects

The ArcMap project coordinate system is NAD1983 UTM Zone 13. The digital topographic maps are in this projection and the AML study quadrangle maps for the Raton field were scanned and projected in NAD83. Each layer within the ArcMap project is described below. This data is also found in the properties of each layer within ArcMap. Metadata is accessed through ArcCatalog.

Coal Data Points: Coal data points from the Coal Data Points (Raton0622015.mdb) database located by decimal degrees latitude and longitude. These points are related to the lithology and stratigraphy tables in the Coal Data Points database by the bore field. The data can be seen in ArcMap using the information icon – ‘i’ in circle on toolbar and clicking on the data point.

Coal Mine Locations: Coal mine locations from the CoalMines database that are located by decimal degrees latitude and longitude. These points are related to the location, geology, mine development and production tables in the CoalMines database by the Coalmine_ID and data can

be seen with the information icon placed on the point. Coal mines that have associated mine maps have hyperlinks to pdfs and can be accessed using the lightning bolt icon.

Coal Mine Permit Areas: Underground and surface coal mine permit areas in the Raton Basin. This shapefile is from the Energy Minerals, and Natural Resources Department, Mining and Minerals Division in Santa Fe, NM. The polygons represent the mine plan areas of the York Canyon Mine Complex and Cimarron Mines.

Coal Mine Maps: All the mine maps are grouped under this layer. Mine maps were scanned as tiff images, and then indexed to reduce the size of the tiff file. To georeference the tiff, the appropriate mine was selected from the Coal Mine Locations layer and zoomed to the selection. The map was fit to the display area; if a visual scale was on the map, it was measured to determine if the scale of the display matched that of the map. Points on the map that could be matched with the underlying topographic map, such as section corners, centers, and quarters along section boundaries were matched with the georeferencing tool. In many cases, a sketch of the mine workings on Lee's map (Lee, 1924 Plate 1) was used as a guide. The map was then rectified. Depending on the map, the rectified image was clipped, either by setting maximum and minimum extents to eliminate no data areas or with a mask. After clipping, the colormap (indexing) was reapplied. The display for the coal mine map group layer is set to have 25% transparency. The maps do not show when the ArcMap view is zoomed out beyond 1:325,000 scale.

Coal Districts: Coal districts within the Raton Basin, New Mexico. Polygon source is from Pillmore, 1991. A 20% transparency is applied to this layer.

Bulletin 752 Plate 1: Map from US Geological Survey Bulletin 752 (Lee, 1924). Scanned and georeferenced. The plate is projected in NAD83 UTM zone 13. A 20% transparency is applied to this layer.

AML Topomap Group: Topographic quadrangle maps with locations from the Abandoned Mine Land study done in the late 1970s–early 1980s. Maps were scanned as tiff images,

palletized and clipped. Each tiff image was georeferenced using the topographic maps brought in from New Mexico Resource Geographic Information System web site. A 20% transparency is applied to this group and the maps will not show when the scale is greater than 1:250,000 for the view in ArcMap.

Orthophoto Maps Group: Orthophoto quarter-quadrangle raster image depicting geographic features on the surface of the earth. The orthophoto quadrangles included show the reclamation areas of surface mining in the York Canyon complex area. A 20% transparency is applied to this group and the maps will not show when the scale is greater than 1:250,000 for the view in ArcMap.

Topo Maps Group: Digital georeferenced topographic maps downloaded from NM RGIS. These are individual collarless U.S. Geological Survey 7.5 min. quadrangles with spatial reference in NAD83 UTM Zone 13. These base maps were used for georeferencing of mine maps and AML maps. A 20% transparency is applied to this group and the maps will not show when the scale is greater than 1:250,000 for the view in ArcMap.

Outline of 7.5 min. Topographic Quadrangles: Outline of topographic quadrangles for Colfax County. This data set was created to digitally represent the USGS quadrangles from the grid of 7.5 minute quads in New Mexico. These data are typically used as base data for other coverages.

Ownership Group: A 30% transparency is applied to this group layer.

Vermejo Park Ranch Property: Polygon shape file created from georeferenced tiff of Vermejo Park Ranch property. Image created from

<http://www.fishenchantment.com/forum/content.php?148-Vermejo-Park-Ranch>

Maxwell Land Grant: From Bureau of Land Management Spanish and Mexican Land Grant shapefile. Shapefile downloaded from:

<https://catalog.data.gov/dataset/bureau-of-land-management-land-grant-boundaries>

NSF- Valle Vidal Unit: Shape files from the National Forest Service outlining Valle Vidal unit and Boundaries adjoining the Valle Vidal. Originally NAD27, reprojected in NAD83 for this project.

Surface Ownership: Clipped shapefile of surface ownership for Raton Basin from BLM (2008) coverage. Shapefile acquired from New Mexico Resource Geographic Information System Program web site: <http://RGIS.unm.edu/browsedata>

Mineral Ownership- US Government: Clipped shapefile of mineral ownership on Colfax County Boundary from BLM shapefile acquired from New Mexico Resource Geographic Information System Program web site: <http://RGIS.unm.edu/browsedata>

Colfax County Group: This layer group includes rivers and streams, major roads, railroad lines, township outlines, topographic quadrangle outlines within Colfax County encompassing the New Mexico part of the Raton Basin. These files are from TIGER files found on the NM RGIS website that have been clipped from the Colfax boundary outline, also included in this group. This boundary is clipped from a Tiger/line shapefile from 2010 census data for the entire state of New Mexico download from New Mexico Resource Geographic Information System Program web site: <http://RGIS.unm.edu/browsedata> . A 20% transparency is applied to this group.

Rivers and Streams: Rivers and streams from Census 2000 TIGER files. Line files were clipped to Colfax County boundary. Original files were downloaded from New Mexico Resource Geographic Information System Program web site.

Areas of Population: City, town and village boundaries from Census Bureau's TIGER/line files, 2000 for New Mexico clipped to Colfax County boundary shapefile. Original files were downloaded from New Mexico Resource Geographic Information System Program web site.

Major Highways and Roads: Census Bureau's 2010 Tiger/line files. Clipped to project area and modified with fields to classified data as Interstate, US Highways, or State Highways. Download from New Mexico Resource Geographic Information System Program web site.

Railroads: Major rail line from Census MAF/TIGER database clipped to Colfax County boundary. Download from New Mexico Resource Geographic Information System Program – NM RGIS.

Townships: Grid acquired from the NM Oil Conservation Division. Much of Colfax County does not have Public Land Survey System as large areas are within land grants.

Geology: Geology from New Mexico Bureau of Geology from the Geologic Map of New Mexico, 1: 500,000 scale (2003). This data includes points, lines, contacts, and polygons. Shape files have been clipped to Colfax County boundary polygon. A 40% transparency is applied to this group.

Raton Base Map: This base map is a topographic map of Colfax County, New Mexico. The map is constructed in AllTopo using BigTopo tool to combine Raton 250,000 scale and Dalhart 250,000 scale. The Raton Base Map is projected using UTM NAD83 Zone 13N. A 40% transparency is applied to this group.

Directory - RatonMines

Folders:

- Base
- Culture
- Data
 - PDF_AMLBinders
 - Photos
- Geology
- Landown
- MineDistricts
- Mines
- Topos
 - Caliente Canyon South
 - CasaGrande
 - CasaGrandeSW
 - Cimarron
 - Dawson
 - Koehler
 - McWilliamsCnyn
 - PLSS

QuadrangleOutline

Raton

RedRiverPeak

SaltPeterMtn

TinPanCanyon

VanBremmer

VermejoPark

Yankee

Raton032015NAD83.mxd (ArcMap Project)

RatonMines.pmf (Arc Reader Project)

GeoreferencedMaps.doc (see Appendix 1)

RatonBasinMines.pdf (Final Report)

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Table 1. Georeferenced coal mine maps, Raton coal field, Colfax County, New Mexico.

Mine Name	Map No.	CoalMine_ID	Quadrangle
Ancho	2331	657	Casa Grande SW
Block – Nos. 1 and 2	6966	62, 63	Yankee
Blossburg – Nos. 1 and 2	2401	37, 38	Raton
Blossburg - Nos. 4, 8, 9	7092	39, 40, 646	Raton
Blossburg No. 6	7089	667	Tin Pan Canyon
Brilliant	2442	60	Tin Pan Canyon
Brilliant – Nos. 2 and 3	2385	60, 61	Tin Pan Canyon
Cimarron	2326	658	Casa Grande
Climax	2404	46	Raton
Davis – No.1	7021	64	Yankee
Dawson District – Nos. 1-6	2393	28,29,31,32	Dawson
Dawson District – Nos. 7-10	13763	30,32,33,34,35	Dawson
Evans Prospect	7051	68	Yankee
Hartsel	2415	72	Yankee
Harvey-Genta	2347	73	Yankee
Koehler- Nos. 1 and 2	2384	161,162	Salt peter Mountain
Krek	6981	78	Yankee
Leonard-Newton-Talbott	7000	80	Yankee
Meredith	2415	83	Yankee
New Dutchman	2401	42	Raton
New Gardner	2401	43	Raton
Old Dutchman	2401	44	Raton
Ox Canyon	2412	53	Red River Peak
Potato Canyon Exploration	2413	166	McWilliams Canyon
Smith No. 1	2401	45	Raton
Sonchar	6980	96	Yankee
Sperry	6966	97	Yankee
Spring Canyon-Bartlett	2317	24	Vermejo Park
Sugarite – Nos. 1 and 2	2404	47	Raton
Sugarite No. 3	2415	98	Yankee
Sunshine	2344	100	Yankee
Swastika	2401	49	Raton
Tin Pan	2441	688	Tin Pan Canyon
Turner-Urtado	2342	102	Yankee
Van Houten – Nos. 1 and 5	2404	54,56	Red River Peak
Van Houten No. 4	2334	55	Red River Peak
Van Houten No. 6	2451	57	Red River Peak
Wagon	2404	50	Raton
Willoughby	2401	51	Raton