In the southern Española Basin, New Mexico, a comprehensive geophysical study has been conducted to understand the region’s geologic features and hydrogeologic framework. The study utilizes a variety of data sets, including aeromagnetic, gravity, and geologic maps, to interpret the basin’s complex geologic history.

**GEOLOGIC FEATURES**

- **Strike and dip of Espinaso Formation**
- **Magnetic unit within Galisteo Formation**
- **Magnetic lineament of undetermined origin**
- **Geologic contact of Santa Fe Group sediments**
- **Barrancos fault system**
- **Rancho Viejo hinge zone**
- **Tijeras-Cañoncito fault**
- **Cerros del Rio Volcanic Field**
- **Exposed intrusive rocks**
- **Cerrillos Intrusion**
- **Elevation of the modeled base of Santa Fe Group sediments**
- **Area underlain by magnetic Puye Formation of the Santa Fe Group**
- **Intersection of Santa Fe Group and Puye Formation**
- **Geologic contact of Galisteo Formation**
- **Geology of south Española Basin**
- **Povió anticline**
- **Ancha Formation of the Santa Fe Group likely overlies Galisteo Formation**
- **Magnetic interpretation of the southern Española Basin**

**HYDROGEOLOGIC SETTINGS**

- **Northern extent of the bulk volume of intrusive bodies related to the Cerrillos intrusive**
- **Central extent of the bulk volume of intrusive bodies related to the Cerrillos intrusive**
- **Southern extent of the bulk volume of intrusive bodies related to the Cerrillos intrusive**
- **Faults affecting basement rocks**
- **Faults affecting consolidated rocks or sedimentary rocks against crystalline**
- **Faults and joints in the basement**
- **Faults and joints in the consolidated rocks**
- **Faults and joints in the sedimentary rocks**
- **Faults and joints in the crystalline rocks**

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