

Appendix C
Oil and Gas EA Projects with Unexpected Effects Found During Monitoring

Region	Forest	District	Project Name	Intensity Factor or EA Issue Affected	Unexpected* Effects Source: 1=District Spreadsheet 2=District Narrative	Significant Effect?
2	GMUG	Grand Valley	Gunnison Energy Exploratory Gas Drilling Project	EA Issue: Soils	Some movement of sediment off the well pad into a nearby intermittent channel. Erosion control and surface runoff measures applied as required but not 100% effective. The close proximity of the drainage feature to the construction site makes total elimination of sediment very difficult. Not significant. 2	No
2	Thunder Basin	Douglas	Bill Barrett Big Porcupine CBNG Project	Intensity Factor: Federal, State or Local Laws	Dissolved iron violations in the water, mitigated or in the process of mitigation. 2	No
				Other: Roads	Rutting from use in wet conditions. 2	No
				Intensity Factor: Threatened and Endangered Species or its Identified "Critical" Habitat Under the Endangered Species Act	Habitat fragmentation due to one power line and road were not located in the same corridor. 2	No
2	Thunder Basin	Douglas	Prima Porcupine CBNG Project	Intensity Factor: Federal, State or Local Laws	Dissolved iron violations in the water, mitigated or in the process of mitigation. 2	No
				Intensity Factor: Threatened and Endangered Species or its Identified "Critical" Habitat Under the Endangered Species Act	One ferruginous hawk nest built after decision signed but before implementation, may be impacted by the proximity of the well. Another ferruginous hawk may be impacted due to increased traffic on improved road. 2	No
2	White River	Rifle	Willsource Exploratory Project	Intensity Factor: Federal, State or Local Laws	Spot widening road at one spot encroached on a small tributary. No opportunity to route road to a buffer in this reach and the stream may eventually erode a portion of the road fill. Only resolved by realigning the road in the event that future gas development is planned beyond this point. Pad development was adjacent to an unnamed tributary. Disturbance and subsequent pad reclamation actually encroached within the water influence zone buffer (100 ft), remaining vegetative buffer prevented any eroded soil from reaching the stream. 2	No
3	Carson	Jicarilla	Rosa Unit 372	Intensity Factor: Federal, State or Local Laws	Disturbed area within 70 feet of an ephemeral stream. During fracking surface waters from the well made it to the arroyo. Sediment delivery occurred to the ephemeral stream threatening compliance with the State and Federal Clean Water Acts. Impact was minor and arroyo was dry during operating period. Fiber mitigation. 1,2	No
3	Carson	Jicarilla	San Juan 27-4 55B	Intensity Factor: Districts, Sites, Highways, Structures, or Objects Listed in or Eligible for Listing in the National Register of Historic Places	One eligible site affected by tree felling. No adverse effect. 1,2	No
3	Carson	Jicarilla	San Juan 30-4 41B	Other: Soil	The site has extremely steep slopes and resulted in large cut bank with 65% slope actively rilling. Not yet reclaimed. Not individually significant, but potentially cumulatively significant issue was not identified in EA.1,2	No

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3	Carson	Jicarilla	Schalk 52 6A	Intensity Factor: Unique Characteristics of the Geographic Area	The well pad falls within 1/4 mile of La Jara Canyon. An intermittent drainage determined an eligible "Recreational" river under the National Wild & Scenic Rivers Act based on its outstandingly remarkable wildlife, cultural, & riparian values. The river is a key winter migratory corridor & security area for elk, deer, and wintering bald eagles; & is one of the few locations in the area capable of supporting riparian vegetation. Three Navajo Defensive sites are listed on the National Register of Historic Places (NRHP). The Forest Plan Amendment for the Wild & Scenic River (WSR) inventory was signed 1/2002 stating that a suitability study would be conducted. The Decision Notice for Application for Permit to Drill (APD) signed in 2001. The entire segment of the drainage is currently leased for oil & gas development. The well site may affect designation as a WSR. Listed Outstanding Remarkable Values (ORV) for the segment were impacted (riparian & cultural). Well pad encroached on an arroyo destroying riparian. Integrity of the NRHP site affected by visibility of well pad from the site. Indirect effects to wildlife. 1,2	No
				Intensity Factor: Districts, Sites, Highways, Structures, or Objects Listed in or Eligible for Listing in the National Register of Historic Places	The erosion on an archaeological site eligible to the NRHP is from activities conducted before the well site development under consideration here. The workbook submitted mentions impacts from past oil and gas, and grazing, activities. The Environmental Assessment (EA) stipulated that the archaeological site be fenced and development be monitored to ensure no impacts to the site. There was no documentation or evidence of the site being monitored. The fence protecting the site was knocked down, threatening compliance with the NHPA. The archaeological site was not impacted, just the adjacent buffer. Also see Wild & Scenic cultural above. 1,2	No
				Intensity Factor: Federal, State or Local Laws	Well pad encroached on intermittent arroyo, threatening compliance with the Clean Water Act. 1,2	No
				Other: Riparian	Well pad encroached on intermittent arroyo and riparian habitat was lost. Threatening compliance with the Migratory Treaty Bird Act. 1,2	No
8	Mississippi	DeSoto	Denbury 20-8 ES MSES 002422 (002442) Well	Intensity Factor: Federal, State or Local Laws	Reserve pit fluids contaminated with salt were lost through a "sinkhold" that developed in the reserve pit threatening the Clean Water Act. No evidence of impacts to water quality was ever found. 1,2	No
8	Mississippi	Homochitto	MSES 50639 Well	Other: Roadless	According to the guidelines at the time of implementation the area of concern did not have an effect on the unique characteristics of the geographic area. Interim guidelines now place this area in a "Roadless" category. Restoration conducted to meet current regulations. Does not meet the definition of roadless since heavily roaded with well maintained public roads. 1	No
9	Wayne	Athens	Drake 4B	Intensity Factor: Threatened and Endangered Species or its Identified "Critical" Habitat Under the Endangered Species Act	Reseeded with Japanese clover rather than planned native seed mix, may alter soil and inhibit preferred species, returning overstory shade may reduce clover, solution to monitor till natural vegetation takes over to ensure no spread. 1,2	No