WEST SIDE CANAL FIELD

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LOCATION: T11-12N, R91-92W, Moffat County, CO and Carbon County, WY

BASIN/PROVINCE: Greater Green River Basin

DATE OF DISCOVERY: 1964

CUMULATIVE PROD: 93 KBO, 232 BCFG, 945 KBW (IHS Energy, 2013, production database)

PLAY TYPE: Conventional gas

DATE OF ABANDONMENT: Currently active

MAX NUMBER OF WELLS:
- Fort Union – 30
- Fox Hills – 8
- Lance – 33
- Lewis – 48
- Mesaverde (Williams Fork/Almond) – 2

DISCOVERY METHOD: Surface/seismic structural mapping

DISCOVERY WELL:
Kirby Royalties, #2 Maggie Baggs Government
49-007-05006
Sec 17-T12N-R91W, SE/4 SW/4, Wyoming
TD 6,550 ft.
Log Ref Elevation –6,458.4 ft. KB
Completed July 27, 1964
to 2,500 ft., 5-1/2 in. to 3,750 ft.
Treatment – Perfs 3227-34, 3242-61, small acid wash
Lance IP – 16,978 MCFGD, no oil or water

GEOLOGY:
- Gas-productive formations in the vicinity of West Side Canal Field (“WSCF”) are mainly Tertiary and upper Cretaceous sandstones

(WSCF). Formation “picks” are fairly straightforward on well logs (Fig. 2).

WSCF is the eastern part of the South Baggs-West Side Canal anticlinal trend (Fig. 3). The trend is the easternmost anticline on the Cherokee Ridge, which separates the Washakie Basin on the north from the Sand Wash Basin on the south. The Cherokee Ridge was created by fault movements along a Precambrian basement suture zone. This structural trend has a long history of episodic motions starting in the Precambrian and climaxing in the Eocene.

This area has been described in detail by Biggs and Espach (1960), Cronoble (1969a,b; 1979), Abrassart (1992), and Juniarsyam (2003). Regional geology covering the general area has been discussed by numerous authors (e.g., Henderson, 1962; Rahmat, 2000; Hull, 2001; Ysaccis, 2003). This report covers only the WSCF in Colorado and Wyoming, based partly on data from the above sources, updated with well data (IHS Energy, 2013) and new subsurface work. The author had no access to local seismic data in making these interpretations.

Closure at WSCF is on the order of a few hundred feet. The gross stratigraphic interval in which commercial gas has been found is about 1,600 ft. in Wyoming and about few hundred feet in Colorado. WSCF produces gas from Mesaverde, Lewis, Fox Hills, Lance, and Fort Union sandstones (Fig. 4).

Mesaverde Group, Almond/Williams Fork Formation – Reservoirs are lithic, shaly, fine- to medium-grained, paralic sandstones interbedded with siltstones, dark shales, and coals. Trapping is stratigraphic. Pools are very small and sparse (Fig. 4).

Lewis Formation – The most numerous gas wells in WSCF produce from very fine- to fine-grained, lithic, shaly, marine turbidite sandstones found in the Lewis Formation (Minton, 2002; see Fig. 4). Reservoir sandstones are interbedded with dark shales, thin bentonites, and impure limestones. Trapping is stratigraphic on and near closure, with Lewis sandstones being less numerous and thinner from west to east on the west flank of the West Side Canal-Four Mile anticlinal trend (Figs. 5 and 6).

Fox Hills Sandstone – Reservoir sandstones are white to gray, very fine- to fine-grained, lithic, and shaly, and of distributary and marine origin. The