for these designs have been discussed earlier in this chapter.

The mega-bin design has two lines of fold coverage for every source line, similar to the swath method (Figure 5.20i). The major differences are that the recording patch now is far greater than with the earlier swath method and the line interval is four times the bin size. However, one can certainly see the similarity between these two designs.

The star and radial designs reach far greater fold in the center of the survey than the nominal 30 fold of the other designs (Figures 5.20j, 5.20k). It therefore may be desirable to offset the lines somewhat in the center or eliminate some source points near the center. The radial design offers far better fold coverage than the star design toward the edges of the survey.

A circular patch produces an even fold distribution similar to the earlier Figures 5.20b–5.20h, because it depends merely on the selection of the offset distance of receivers to be included (which should be equal to X_{mute}). Any random design creates some higher fold bins at the expense of some lower fold coverage in other bins (Figure 5.20e).

Table 5.1 compares some of the major advantages and disadvantages of each of the design methods presented in this chapter. It is by no means a complete-treatment; the reader is referred to the individual sections of this chapter for further information.

Table 5.1. Field layouts—pros and cons of various layout strategies.

Layout	Pros	Cons
Swath	Simple geometry. Cost efficient.	Poor azimuth distribution.
	Good offset distribution.	Poor statics coupling.
	Minimum equipment movement.	
Orthogonal	Simple geometry.	Large X_{min}.
Brick	Smaller X_{min} may allow a wider *RLI.*	Access can be a problem.
	Reasonable offsets and azimuths.	Poor sampling in common-receiver gather can lead to acquisition footprint.
Nonorthogonal	Simple geometry.	Same as orthogonal.
Flexi-Bin®* or Bin Fractionation*	High resolution with low fold, or low resolution with high fold.	Same as orthogonal.
	Super bins for normal use have good offset and azimuth mix.	
	Excellent statics coupling.	
Button Patch*	Efficient utilization of large channel systems.	Can require large number of source points over a wide area for each patch.
	Good offset and azimuth distribution require detailed planning.	Needs large channel capacity. Static coupling hard to accomplish. Prone to acquisition footprint.
Zig-Zag	Same as brick. Efficient for equipment moves.	Must have very open access.
		Single zig-zags are prone to acquisition footprint
Mega-Bin*	Improved noise sampling.	Similar to swath method.
		Must *f-x* interpolate to fill empty bins.
Star and Radial	Good for salt domes.	Best with all lines live.
	Offers excellent offsets for migration.	Highly irregular statistics.
Random	Improved offset and azimuth distribution.	Fold, X_{min} and X_{max} are more random.
	Minimal acquisition footprint.	
Circular Patch	Consistent X_{max}.	Operationally difficult.

*Patent Restrictions apply to the use of these technologies.