METHOD AND APPARATUS FOR SEALING A WELLBORE

BACKGROUND

The present disclosure relates generally to oilfield operations. More specifically, the present disclosure relates to techniques for sealing a wellbore.

Oilfield operations are typically performed to locate and gather valuable downhole fluids. Oil rigs are positioned at wellsites and downhole tools, such as drilling tools, are deployed into the ground to reach subsurface reservoirs. Once the downhole tools form a wellbore to reach a desired reservoir, casings may be cemented into place within the wellbore, and the wellbore completed to initiate production of fluids from the reservoir. Tubing or pipes are typically positioned in the wellbore to enable the passage of subsurface fluids to the surface.

Leakage of subsurface fluids may pose a significant environmental threat if released from the wellbore. Equipment, such as blow out preventers (BOPs), are often positioned about the wellbore to form a seal about pipes and to prevent leakage of fluid as it is brought to the surface. BOPs may employ rams and/or ram blocks that seal the wellbore. Some examples of ram BOPs and/or ram blocks are provided in U.S. Patent/Application Nos. 4647002, 6173770, 5025708, 7051989, 5575452, 6374925, 20080265188, 5735502, 5897094, 7234530 and 2009/0056132. The BOPs may be provided with various devices to seal various portions of the BOP as described, for example, in US Patent Nos. 4508311, 5975484, 6857634 and 6955357. Despite the development of sealing techniques, there remains a need to provide advanced techniques for sealing wellbores.

SUMMARY

The present disclosure relates to techniques for sealing a pipe of a wellbore. Inserts may be positioned in a seal assembly of carried by a pair of opposing ram blocks of a blowout preventer. The inserts have upper and lower bodies with a rib therebetween. The upper and lower bodies are provided with extended tips on a seal end thereof and tip receptacles on a leading face thereof. The extended tips are receivable in the tip receptacles of an adjacent insert to restrict extrusion of therebetween. The upper and lower bodies may also be provided with recesses and ledges for interlocking engagement and slidable movement between the inserts. Scallops may be provided along the tips to conform to various pipe diameters.

In another aspect, the disclosure relates to a seal assembly of a blowout preventer. The blowout preventer includes a pair of opposing ram blocks positionable about a pipe of a wellsite. The seal assembly includes a pair of seals carried by the pair of opposing ram blocks and a plurality of inserts. The inserts carried by the pair of seals and positionable about the pipe in an elliptical array. Each of the inserts having an upper body and a lower body with a rib therebetween. Each of the upper and lower bodies have an extended tip on a seal end thereof and a tip receptacle on a leading face thereof. The extended tips of the upper and lower bodies of each of the inserts are receivable in the tip receptacles of an adjacent one of the inserts whereby extrusion of the pair of seals between the inserts is restricted.

In yet another aspect, the disclosure relates to a blowout preventer for sealing a pipe of a wellsite. The blowout preventer includes a housing, a pair of opposing ram blocks positionable about a pipe of a wellsite, and a seal assembly. The seal assembly includes a pair of seals carried by the pair of opposing ram blocks and positionable in sealing engagement about the pipe and a plurality of inserts. The inserts are carried by the pair of seals and positionable about the pipe in an elliptical array. Each of the inserts have an upper body and a lower body with a rib therebetween. Each of the upper and lower bodies have an extended tip on a seal end thereof and a tip receptacle on a leading face thereof. The extended tips of the upper and lower bodies of each of the inserts are receivable in the tip receptacles of an adjacent one of the inserts whereby extrusion of the pair of seals between the inserts is restricted.

Finally, in yet another aspect, the disclosure relates to a method of sealing a pipe of a wellsite. The method involves providing a blowout preventer including a housing, a pair of opposing ram blocks positionable about the pipe, and a seal assembly. The seal assembly includes a pair of seals carried by the opposing ram blocks and a plurality of inserts. The carried by the seals. The inserts have an upper body and a lower body with a rib therebetween. Each of the upper and lower bodies has an extended tip on a seal end thereof and a tip receptacle on a leading face thereof. The method further involves positioning the inserts of the seal assembly about the pipe in an elliptical array by advancing the opposing ram blocks toward the pipe, and restricting extrusion of the pair of seals between the inserts by receiving the extended tips of the upper and lower bodies of each of the inserts in the tip receptacles of an adjacent one of the inserts.

BRIEF DESCRIPTION OF THE DRAWINGS

So that the above recited features and advantages of the present disclosure can be understood in detail, a more particular description of the technology herein, briefly summarized above, may be had by reference to the embodiments thereof that are illustrated in the appended drawings. It is to be noted, however, that the appended drawings illustrate only typical embodiments of this technology and are, therefore, not to be considered limiting of its scope, for the disclosure may admit to other equally effective embodiments. The figures are not necessarily to scale, and certain features and certain views of the figures may be shown exaggerated in scale or in schematic in the interest of clarity and conciseness.

Figure 1 is a schematic view of an offshore wellsite having a BOP with a seal assembly therein according to the disclosure.

Figure 2 is a schematic view of the BOP of Figure 1 having ram blocks with the seal assembly thereon.

Figures 3A and 3B are schematic views of ram blocks with a seal assembly thereon in a retracted and sealed position, respectively.

Figures 4A-4C are various schematic views of an insert of a seal assembly.

Figures 5A and 5B are schematic views of a portion of a seal assembly having a gap and a reduced gap, respectively.

Figures 6A-6D are various schematic views of various portions of a seal assembly having a plurality of inserts in accordance with the disclosure.

Figures 7A-7D are various schematic views of one of the inserts of Figure 6A.

Figures 7E-7F are various schematic views of a portion of a seal assembly having a plurality of the inserts of Figure 7A.

Figures 8A-8C are schematic views of an alternate insert.

Figures 9A-9C are schematic views of another alternate insert.

Figures 10A-10C are various schematic views of a portion of a seal assembly having a plurality of the inserts of Figure 9A.

DETAILED DESCRIPTION

The description that follows includes exemplary apparatuses, methods, techniques, and instruction sequences that embody techniques of the present subject matter. However, it is understood that the described embodiments may be practiced without these specific details.

The disclosure relates to techniques for sealing a wellbore. The techniques involve inserts used, for example, in a ram block of a blowout preventer. The inserts may be positioned about a tubular (or pipe) for forming a seal therewith. It may be desirable to provide techniques that more effectively seal, even under high pressure conditions. It may be further desirable to provide techniques that more effectively seal about a variety of pipe diameters. Preferably, such techniques involve one or more of the following, among others: ease of operation, simple design, adaptability to a variety of applications, reduced failures, performance under harsh conditions, conformance to equipment shapes and/or sizes, increased capacity, etc. The present disclosure is directed to fulfilling these needs in the art.

Figure 1 depicts an offshore wellsite 100 having a blowout preventer (BOP) 108 configured to seal a wellbore 105 extending into a seabed 107. The BOP 108 has a seal assembly 102 positioned therein. As shown, the BOP 108 is part of a subsea system 106 positioned on the seabed 107. The subsea system 106 may also comprise a pipe (or tubular) 104 extending through the wellbore 105, a wellhead 110 about the wellbore 105, a conduit 112 extending from the wellbore 105, and other subsea devices, such as a stripper and a conveyance delivery system (not shown). While the wellsite 100 is depicted as a subsea operation, it will be appreciated that the wellsite 100 may be land or water based.

A surface system 120 may be used to facilitate operations at the offshore wellsite 100. The surface system 120 may comprise a rig 122, a platform 124 (or vessel) and a surface controller 126. Further, there may be one or more subsea controllers 128. While the surface controller 126 is shown as part of the surface system 120 at a surface location and the subsea controller 128 is shown part of the subsea system 106 in a subsea location, it will be appreciated that one or more controllers may be located at various locations to control the surface and/or subsea systems.

To operate the BOP 108 and/or other devices associated with the wellsite 100, the surface controller 126 and/or the subsea controller 128 may be placed in communication. The surface controller 126, the subsea controller 128, and/or any devices at the wellsite 100 may communicate via one or more communication links 134. The communication links 134 may be

any suitable communication means, such as hydraulic lines, pneumatic lines, wiring, fiber optics, telemetry, acoustics, wireless communication, any combination thereof, and the like. The BOP 108 and/or other devices at the wellsite 100 may be automatically, manually and/or selectively operated via the controllers 126 and/or 128.

Figure 2 shows a detailed, schematic view of a BOP 108 that may be used as the BOP 108 of Figure 1. The BOP 108 may be a conventional BOP having a body 236 with a central passageway 238 therethrough for receiving a pipe (e.g., 104 of Figure 1). The BOP 108 also includes a pair of conventional ram assemblies 240, 242 on opposite sides thereof. Examples of BOPs, ram assemblies and/or ram blocks usable with the BOP 108 are described in U.S. Patent No. 5735502. The ram assembly 240 has been pivotally retracted to reveal ram block 247. The seal assembly 102 is positionable within each of the ram blocks 247 for providing a seal with a pipe positioned in the central passageway 238.

Each ram assembly 240, 242 is in communication with a respective one of the radially opposing chambers 244 in the BOP body that extend radially outward from the central passageway 238. Each ram assembly 240, 242 may include a ram body 246, the ram block 247 and a ram door 248. Ram door 248 may be secured to the BOP body 236 by conventional bolts (not shown) which pass through respective apertures 250 in the ram door 248 and thread to corresponding ports 251 in the BOP body 236.

The ram assemblies 240, 242 may be pivotally mounted on the BOP body 236 by pivot arms 252, thereby facilitating repair and maintenance of the ram blocks 247. Bolts in the passageway 250 may thus be unthreaded from the BOP body 236, and the ram assembly 240 swung open, as shown in Figure 2, to expose the ram block 247.

The ram blocks 247 have an arcuate shaped body with an arcuate shaped inlet 259 configured to receive a portion of the pipe 104 for sealing engagement therewith. Once in position, the ram block 247 may be selectively activated to move within the seal assembly 102 to a sealed position about the pipe 104 positioned therein.

Figures 3A-3B show a portion of conventional ram blocks assemblies 12, 14 in various positions about the pipe 104. The ram block assemblies 12, 14 may be used as part of the ram blocks 247 of Figure 2. The ram blocks 247 are provided with a seal assembly 102 thereon for supporting a rubber gland (or seal) 249. The seal assembly 102 may be configured to seal on multiple pipe diameters. During activation of the ram blocks 247, the rubber gland 249 is

advanced toward the drill pipe 104 and forced under hydraulic pressure to conform to the drill pipe 104. To protect the rubber gland 249 (and potentially extend its life), the rubber gland 249 may be molded with inserts (or metal reinforcements) 20 that aid in retaining the gland 249 and/or prevent rubber extrusion.

As shown in Figure 3B, the inserts 20 are positionable in an elliptical, iris configuration, sometimes referred to as an insert array. The movement of the inserts 20 is similar to the iris of an eye that alters the inner diameter of the pupil (or hole) receiving the pipe 104. The inserts 20 are slidingly moveable between a retracted (or unsealed) and a sealed position, and interlocked for cooperative movement therebetween. The inserts 20 are designed to support the rubber gland 249 to enhance a seal formed by the rubber gland 249 about the pipe 104 during operation.

Conventional inserts 20 are detailed in Figures 4A-4C. These inserts 20 are described in further detail in US Patent No. 6,857,634. The inserts 20 have an upper body 24 and a lower body 26. Each of the upper and lower bodies 24, 26 are provided with a ledge 30 and a corresponding recess 36 and an anti-extrusion ledge 46 thereon.

To enhance the operation of the seal assembly 102, the inserts 20 may optionally be provided with geometries that provide support to the seal assembly 102 and/or reduce extrusion of the rubber gland 249 about the pipe 104 during operation of the ram blocks 247. Figure 5A shows a portion of the array of inserts 20 of Figure 3B. As shown in Figure 5A, conventional inserts 20 define an inner diameter 560 for receiving pipe 104 (Figure 1). The inserts 20 have tips 564 at an end adjacent the inner diameter 560, and may define gaps 562 between the inserts 20 along the inner diameter 560. These large gaps provide space between the inserts and the drill pipe that define an extrusion path or gap for the rubber gland 249. In some cases, extrusion gaps of up to 0.125 inches (0.32 cm) may be present.

To reduce or restrict the extrusion between the inserts, it may be desirable to reduce the gaps 562. These reduced gaps may reduce the open area (or space) between the pipe 104 and the inserts 20 to restrict extrusion therethrough. As shown in Figure 5B, alternate inserts 20a are provided with extended tips 564a that extend beyond a secondary tip 565a on a seal end of the insert 20a. The extended tips 564a may be used to provide a reduced gap 562a therebetween along inner diameter 560a. The geometry of the inserts 20a may be used to minimize the extrusion gap 562a by providing geometry that incrementally matches various pipe sizes. The

shape, size and quantity of the geometries may vary based on a desired range of coverage and/or operating conditions.

The inserts may be provided with various features, such as scallops (or facets) as will be described further herein, to reduce this gap to, for example, about 0.015-0.030 inches (0.38 – 0.76 mm) or less. In addition the inserts may also have overlapping features, such as tips, ledges or shoulders as will be described further herein, to allow greater surface area to distribute the features. Such overlapping features may be used on portions of the insert for supporting an adjacent insert from internal rubber pressures, preventing extrusion between inserts, and/or adding stiffness to the seal assembly.

Figures 6A-6D show various views of an insert 20a usable in the seal assembly 102 of Figures 1-3B. Figure 6A shows an elliptical array of the inserts 20a forming a portion of an alternate seal assembly 102a and defining a variable inner diameter 560a. Figure 6B shows a portion of the array of inserts 20a of Figure 6A taken along line 6B-6B. Figure 6C is a detailed view of a portion 6C of the assembly 102a of Figure 6A. Figure 6D is a detailed view of two of the inserts 20a interlocked together for slidable movement therebetween.

As shown in Figures 6C-6D, the inserts 20a may be provided with extended (or pointed) tips 564a that terminate at a point to fill the gap 562a (see, e.g., Figure 5B). The extended tip 564a may, for example, have a radius R of about 0.03 - 0.05 inches (0.76 – 1.27 mm) near an end thereof. A tip receptacle 667a may be provided in the insert 20a for receiving the extended tip 564a of an adjacent insert 20a, and for providing overlap between the inserts 20a, as will be described further herein.

The elliptical array of inserts defines an inner contact surface for engaging the pipe. The inserts 20a may also be provided with scallops (or contact surfaces) 566a for engaging the pipe 104 and further filling the gaps 562a about inner diameter 560a. One or more scallops 566a may be provided along the extended tip to define the contact surface for receiving the pipe 104. Multiple scallops may be provided to a curved contact surface that may conform to the shape of a variety of pipe diameters. The inserts may contract and expand about the pipe to conform to the size and shape of the pipe, and the shape of the scallops can conform to the various pipes.

Figures 7A-7D show the inserts 20a in greater detail. The inserts 20a cooperate with each other to radially expand and contract in an iris pattern (see, e.g., Figure 3B, 6B). Each insert 20a has an upper body 768a and a lower body 770a with a rib 772a therebetween integrally

made of metal. The upper body 768a has the same shape as the lower body 770a and is a mirror image thereof. The rib 772a is substantially smaller than the upper body 768a and lower body 770a to allow the rubber gland 249 to flow between the metal inserts 20a as the ram blocks 247 are pressed together as shown in Figure 3B.

The upper body 768a and the lower body 770a each have a leading face 774a a shown in Figure 7A and a trailing face 776a as shown in Figure 7B. The leading face 774a and the trailing face 776a meet at the extended tip 564a on one end beyond secondary tip 565a, and are joined by a heel (or radially outwardly opposing face) 778a at an opposite end thereof. The upper body 768a and the lower body 770a each also have an inverted ledge 782a extending from the leading face 774a, and an inverted recess 784a indented into the trailing face 776a as shown in Figure 7C. The inverted recess 784a is configured to receive the inverted ledge 782a of an adjacent insert as depicted in Figure 6D for slidable support therebetween. The inverted recess 784a and the inverted ledge 782a may be mated to cooperatively interact similar to the ledge 30 and recess 36 of Figure 4A. The ledges 782a and recesses 784a may be inverted from the configuration of ledge 30 and recess 36 positioned on an outer surface of the insert 20 of Figure 4A. In the inverted configuration, the ledges 782a and recesses 784a are positioned on an inner surface of the upper and lower bodies 768a, 770a to further support the inserts 20a as pressure is applied thereto during a sealing operation.

The leading face 774a has a plurality of scallops (or contact surfaces or facets) 566a on a portion thereof as shown in Figure 7A. One or more scallops 566a may be provided. As shown, four scallops 566a extend into the leading face 774a. The scallops 566a may be concave indentations configured to receivingly engage the pipe 104. To further reduce the gap 562a (Figure 5B), the scallops 566a of adjacent inserts 20a are preferably shaped to conform to the shape of the inner diameter 560a (Figure 4B). The scallops 566a may also be shaped such that, as the inner diameter 560a defined by the inserts adjusts to a given pipe size, the scallops 566a conform to the pipe shape. Additional scallops 566a may be added to provide conformity to more pipe sizes. In some cases, the scallops 566a may define an edge 787a therebetween. The edges 787a may optionally be flattened or curved to provide a smoother transition between the scallops 566a.

Figure 7D shows a portion of the insert 20a depicting the extended tip 564a in greater detail. Figures 7E and 7F show views of a portion of an array of the inserts 20a. The insert 20a

has a tip receptacle 667a extending into the upper body 768a for receiving the extended tip 564a of an adjacent insert 20a. This overlapped configuration may be used to more tightly fit the inserts 20a together, and further conform the extended tip 564a to the shape of the pipe. Additionally, this overlapping configuration may be used to further prevent extrusion between inserts.

Figures 8A-8B show an alternate insert 20b that is similar to the insert 20a, except that the upper body 768b and lower body 770b each have a recess 888b extending into leading face 774b with corresponding ledges 890b extending into trailing face 776b. The upper body 768b and the lower body 770b have a rib 772b therebetween. In this configuration, the recess 888b and ledges 890b are upright (not inverted as shown in the insert 20a of Figures 7A-7F), and are positioned on an outer surface of the insert 20b. The recess 888b and ledge 890b may cooperatively interact similarly to the ledge 30 and recess 36 of Figure 4A. One or more recesses 888b and corresponding ledges 890b may be provided about various portions of the upper and/or lower body 786b, 770b of each insert 20b.

As shown in Figures 8A and 8B, a shoulder (or radially inwardly directed anti-extrusion ledge) 892b extends from the leading face 774b and a corresponding ridge 894b extends into a trailing face 776b in the upper body 786b on each insert 20a. The shoulder 892b and ridge 894b may operate similar to the radially inwardly directed anti-extrusion ledge 46 of the insert 20 of Figure 4A.

The shoulder 892b and ridge 894b define a first tier for interaction between the inserts 20b. The ledge 890b extends from the trailing face 776b to define a second tier for interaction with recess 888b. This two tier configuration may be used to support the cooperative movement and support of the inserts 20b, and prevent extrusion therebetween. One or more shoulders 892b and corresponding ridges 894b may also be provided about various portions of the insert 20b to provide support and/or prevent extrusion between adjacent inserts. Scallops 566b adjacent extended tip 564b, similar to the scallops 566a of Figures 7A-7C, may also be provided to reduce the gaps between the inserts 20b and further prevent extrusion therebetween. Extended tip 564b is provided with a secondary tip 565b therebelow.

Figures 9A-9B show an alternate insert 20c that is similar to the insert 20b, except that the upper body 768c and lower body 770c each have multiple recesses 888c extending into leading face 774c with corresponding upright ledges 890c extending into trailing face 776c. The

upper body 768c and the lower body 770c have a rib 772c therebetween. The multiple recesses 888c and multiple ledges 890c may cooperatively interact similarly to the ledges 890b and recesses 888b of Figures 8A-8B. In this case, multiple recesses 888c and corresponding ledges 890c are provided at various depths to provide for additional contact between adjacent inserts. Additional ledges 890c and recesses 888c may be used to increase the amount of overlap between inserts and/or to reduce extrusion therebetween. One or more recesses 888c and corresponding ledges 890c for receiving that shoulder may also be provided about various portions of the upper and/or lower body of each insert 20c.

As shown in Figures 9A and 9B, the insert 20c may also be provided with a shoulder (or radially inwardly directed antiextrusion ledge) 892c extending from the leading face 774c and a corresponding ridge 894c extending into the trailing face 776c in the upper body 786c on each insert 20c. The shoulder 892c and ridge 894c may operate similar to the shoulder 892b and ridge 894b of Figures 8A and 8B.

The recesses 888c and shoulders 890c define a first and second tier for interaction between the inserts 20c. The shoulder 892c extends from the leading face 774c to define a third tier for interaction between the inserts 20c. This three tier configuration may be used to support the cooperative movement and support of the inserts 20c, and prevent extrusion therebetween. One or more shoulders 892c and corresponding ridges 894c may also be provided about various portions of the insert 20c to provide support and/or prevent extrusion between adjacent inserts. Scallops 566c positioned about extended tip 564c, similar to the scallops 566a of Figures 7A-7C, may also be provided to reduce the gaps between the inserts 20c and further prevent extrusion therebetween. Two extended tips 564c are provided with a secondary tip 565c therebelow.

Figures 10A-10C show views of a portion of an array of the inserts 20c. Each insert 20c has a tip receptacle 667c extending into the upper body 768c and lower body 770c for receiving the extended tip 564c of an adjacent insert 20c as shown in Figures 10A and 10B. This overlapped configuration may be used to more tightly fit the inserts 20c together, and further conform the extended tips 564c to the shape of the pipe. Figure 10C also shows the ledges 890c and shoulder 892c of a first insert 20c being received by the recesses 888c and ridge 894c, respectively of an adjacent insert 20c for further overlap therebetween. These overlapping configurations may also be used to further prevent extrusion between inserts.

In an example operation, the ram blocks 247 may actuated between the retracted position of Figure 4A and to the sealed position of Figure 4B. The inserts 20a-c of the seal assembly 102a-c may slidingly move to cooperatively conform to the shape of the pipe 104 for sealing engagement therewith. The inserts 20a-c may be provided with various combinations of features, such as recesses, shoulders, ridges, scallops, receptacles, and extended tips to enhance operation of the seal assembly.

It will be appreciated by those skilled in the art that the techniques disclosed herein can be implemented for automated/autonomous applications via software configured with algorithms to perform the desired functions. These aspects can be implemented by programming one or more suitable general-purpose computers having appropriate hardware. The programming may be accomplished through the use of one or more program storage devices readable by the processor(s) and encoding one or more programs of instructions executable by the computer for performing the operations described herein. The program storage device may take the form of, e.g., one or more floppy disks; a CD ROM or other optical disk; a read-only memory chip (ROM); and other forms of the kind well known in the art or subsequently developed. The program of instructions may be "object code," i.e., in binary form that is executable more-or-less directly by the computer; in "source code" that requires compilation or interpretation before execution; or in some intermediate form such as partially compiled code. The precise forms of the program storage device and of the encoding of instructions are immaterial here. Aspects of the disclosure may also be configured to perform the described functions (via appropriate hardware/software) solely on site and/or remotely controlled via an extended communication (e.g., wireless, internet, satellite, etc.) network.

While the present disclosure describes specific aspects of the disclosure, numerous modifications and variations will become apparent to those skilled in the art after studying the disclosure, including use of equivalent functional and/or structural substitutes for elements described herein. For example, aspects of the disclosure can also be implemented using various combinations of one or more recesses, shoulders, ridges, scallops, receptacles, extended tips and/or other features about various portions of the inserts. All such similar variations apparent to those skilled in the art are deemed to be within the scope of the disclosure as defined by the appended claims.

Plural instances may be provided for components, operations or structures described herein as a single instance. In general, structures and functionality presented as separate components in the exemplary configurations may be implemented as a combined structure or component. Similarly, structures and functionality presented as a single component may be implemented as separate components. These and other variations, modifications, additions, and improvements may fall within the scope of the subject matter herein.

CLAIMS

What is claimed is:

1. An insert for supporting a seal of a seal assembly of a blowout preventer, the seal assembly positionable in sealing engagement with a pipe, the insert comprising:

an upper body and a lower body with a rib therebetween, each of the upper and lower bodies having an extended tip on a seal end thereof and a tip receptacle on a leading face thereof;

wherein the extended tips of the upper and lower bodies of the insert are receivable in the tip receptacles of another insert whereby extrusion of the seal therebetween is restricted.

2. The insert of claim 1, wherein the upper and lower bodies each have a plurality of scallops adjacent the extended tip.

3. The insert of claim 1, wherein the upper and lower bodies each have at least one ledge and at least one recess for receiving the at least one ledge.

4. The insert of claim 3, wherein the upper and lower bodies each have a plurality of ledges and a plurality of recesses.

5. The insert of claim 4, wherein the upper and lower bodies each have two ledges and two recesses.

6. The insert of claim 4, wherein the upper and lower bodies each have three ledges and three recesses.

7. The insert of claim 3, wherein the at least one ledge comprises an inverted ledge and the at least one recess comprises an inverted recess.

8. The insert of claim 3, wherein the at least one ledge comprises an upright ledge and the at least one recess comprises an upright recess.

9. The insert of claim 3, wherein the at least one ledge comprises an anti-extrusion ledge and the at least one recess comprises an anti-extrusion recess.

10. The insert of claim 1, wherein the extended tip has a radius between 0.76 – 1.27 mm.

11. The insert of claim 1, wherein the upper body further comprises a secondary tip a distance from the seal end.

12. A seal assembly of a blowout preventer, the blowout preventer comprising a pair of opposing ram blocks positionable about a pipe of a wellsite, the seal assembly comprising:

a pair of seals carried by the pair of opposing ram blocks; and

a plurality of inserts carried by the pair of seals and positionable about the pipe in an elliptical array, each of the plurality of inserts having an upper body and a lower body with a rib therebetween, each of the upper and lower bodies having an extended tip on a seal end thereof and a tip receptacle on a leading face thereof;

wherein the extended tips of the upper and lower bodies of each of the plurality of inserts are receivable in the tip receptacles of an adjacent one of the plurality of inserts whereby extrusion of the pair of seals between the plurality of inserts is restricted.

13. The seal assembly of Claim 12, wherein the elliptical array of the plurality of inserts defines an inner diameter for receiving the pipe.

14. The seal assembly of Claim 13, wherein the inner diameter is variable.

15. The seal assembly of Claim 12, wherein the plurality of inserts slidably engage each other.

16. The seal assembly of Claim 12, wherein each of the plurality of inserts have mated ledges and recesses for sliding engagement therebetween.

17. The seal assembly of Claim 12, wherein the plurality of inserts are interlocked together.

18. The seal assembly of Claim 12, wherein the plurality of inserts is movable in an iris pattern between a contracted and expanded position.

19. The seal assembly of Claim 12, wherein the plurality of inserts define a contact surface along an inner periphery of the elliptical array for contact with the pipe.

20. The seal assembly of Claim 19, wherein, when the plurality of inserts are positioned in sealing engagement with the pipe, an extrusion gap is defined between the plurality of inserts and the pipe.

21. The seal assembly of Claim 19, wherein each of the plurality of inserts has at least one scallop about the extended tip such that, when positioned in the elliptical array about the pipe, the at least one scallop of the extended tips of the plurality of inserts defines an inner surface for receivingly engaging the pipe.

22. The seal assembly of Claim 19, wherein each of the plurality of inserts has a plurality of scallops about the extended tip such that, when positioned in the elliptical array about the pipe of a given diameter, the plurality of scallops of the extended tips of the plurality of inserts adjustably defines an inner surface for receivingly engaging the pipe.

23. A blowout preventer for sealing a pipe of a wellsite, the blowout preventer comprising:
a housing;
a pair of opposing ram blocks positionable about a pipe of a wellsite;
a seal assembly, comprising:
a pair of seals carried by the pair of opposing ram blocks and positionable in sealing engagement about the pipe; and
a plurality of inserts carried by the pair of seals and positionable about the pipe in an elliptical array, each of the plurality of inserts having an upper body and a lower body with a rib therebetween, each of the upper and lower bodies having an extended tip on a seal end thereof and a tip receptacle on a leading face thereof;
wherein the extended tips of the upper and lower bodies of each of the plurality of inserts are receivable in the tip receptacles of an adjacent one of the plurality of inserts whereby extrusion of the pair of seals between the plurality of inserts is restricted.

24. The blowout preventer of Claim 23, wherein the seal assemblies are movable by the ram blocks between an unsealed position away from the pipe and a sealed position in engagement with the pipe.

25. The blowout preventer of Claim 20, wherein, in the sealed position, the seal assemblies encircle the pipe.

26. A method of sealing a pipe of a wellsite, the method comprising:

providing a blowout preventer comprising a housing, a pair of opposing ram blocks positionable about the pipe, and a seal assembly, the seal assembly comprising:

a pair of seals carried by the pair of opposing ram blocks; and

a plurality of inserts carried by the pair of seals, each of the plurality of inserts having an upper body and a lower body with a rib therebetween, each of the upper and lower bodies having an extended tip on a seal end thereof and a tip receptacle on a leading face thereof;

positioning the plurality of inserts of the seal assembly about the pipe in an elliptical array by advancing the opposing ram blocks toward the pipe; and

restricting extrusion of the pair of seals between the plurality of inserts by receiving the extended tips of the upper and lower bodies of each of the plurality of inserts in the tip receptacles of an adjacent one of the plurality of inserts.

27. The method of Claim 28, further comprising moving the plurality of inserts between a retracted and extended position about the pipe.

28. The method of Claim 28, further comprising interlocking the plurality of inserts for sliding engagement therebetween.

29. The method of Claim 28, further comprising adjustably receiving pipes of various diameters.