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AMENDMENTS FOR COMPARISON

1. A method that comprises:

collecting seismic survey data;

processing the seismic survey data to identify subterranean conduit coordinates and a plug point coordinate;

performing a conduit plugging operation based at least in part on [[using]] the identified subterranean conduit coordinates and the plug point coordinate.

12. A system that comprises:

at least one seismic source;

at least one seismic receiver to collect seismic survey data in response to at least one shot fired by the at least one seismic source; and

a processing unit in communication with the at least one seismic receiver,

wherein the processing unit analyzes the collected seismic survey data to identify subterranean conduit coordinates and a plug point coordinate for use with conduit plugging operations.

No amendments to the rest of the claims.

CLAIMS

WHAT IS CLAIMED IS:

1. A method that comprises:

collecting seismic survey data;

processing the seismic survey data to identify subterranean conduit coordinates;

performing a conduit plugging operation using the identified subterranean conduit coordinates.

2. The method of claim 1, further comprising recovering hydrocarbons from an active well installation in vicinity of the subterranean conduit after said performing a conduit plugging operation.

3. The method of claim 1, further comprising identifying a region of interest for collecting said seismic survey data based on a non-seismic survey.

4. The method of claim 3, wherein the non-seismic survey corresponds to an electromagnetic survey or chemical spectroscopy survey.

5. The method of claim 1, wherein performing a conduit plugging operation using the identified subterranean conduit coordinates comprises drilling a relief well to intersect the subterranean conduit.

6. The method of claim 5, further comprising identifying a formation layer of interest, and drilling the relief well to interest the subterranean conduit at or near a bed boundary corresponding to the formation layer of interest.

7. The method of claim 5, further comprising performing cementing operations via the relief well to plug the subterranean conduit.

8. The method according to any one of claims 1 to 7, wherein processing the seismic survey data to identify subterranean conduit coordinates comprises identifying a two-dimensional trajectory of the subterranean conduit.

9. The method according to any one of claims 1 to 7, wherein processing the seismic survey data to identify subterranean conduit coordinates comprises identifying a three-dimensional trajectory of the subterranean conduit.

10. The method according to any one of claim 1 to 7, wherein processing the seismic survey data to identify subterranean conduit coordinates comprises applying at least one of conduit identification parameters or an earth model filter to the seismic survey data.

11. The method according to any one of claim 1 to 7, wherein processing the seismic survey data to identify subterranean conduit coordinates comprises comparing primary wave data and shear wave data

12. A system that comprises:

at least one seismic source;

at least one seismic receiver to collect seismic survey data in response to at least one shot fired by the at least one seismic source; and

a processing unit in communication with the at least one seismic receiver, wherein the processing unit analyzes the collected seismic survey data to identify subterranean conduit coordinates for use with conduit plugging operations.

13. The system of claim 12, wherein one of at least one seismic source and the at least one seismic sensor is positioned downhole while the other is positioned at earth's surface.

14. The system of claim 12, wherein the at least one seismic source and the at least one seismic receiver are positioned downhole.

15. The system of claim 12, wherein the at least one seismic source and the at least one seismic receiver are positioned at earth's surface.

16. The system according to any one of claims 12 to 15, further comprising a drilling tool to receive the subterranean conduit coordinates and to drill a relief well to intersect the subterranean conduit.

17. The system of claim 16, further comprising a survey tool to identify a bed boundary of interest, wherein the relief well intersects the subterranean conduit at or near the bed boundary of interest for conduit plugging operations.

18. The system of claim 16, further comprising a cementing tool to perform cementing operations via the relief well to plug the subterranean conduit.

19. The system according to any one of claims 12 to 15, further comprising a non-seismic survey tool to identify a region of interest for collecting said seismic survey data.

20. The system according to any one of claims 12 to 14, further comprising a logging-while-drilling (LWD) tool or a wireline logging tool to adjust a downhole position of the at least one seismic source or the at least one seismic receiver.

21. The system according to any one of claims 12 to 15, further comprising an active well installation in vicinity of the subterranean conduit to recover hydrocarbons after said subterranean conduit is plugged.

CLAIMS

1. A method that comprises:

collecting seismic survey data;

processing the seismic survey data to identify subterranean conduit coordinates and a plug point coordinate;

performing a conduit plugging operation based at least in part on the identified subterranean conduit coordinates and the plug point coordinate.

2. The method of claim 1, further comprising recovering hydrocarbons from an active well installation in vicinity of the subterranean conduit after said performing a conduit plugging operation.

3. The method of claim 1, further comprising identifying a region of interest for collecting said seismic survey data based on a non-seismic survey.

4. The method of claim 3, wherein the non-seismic survey corresponds to an electromagnetic survey or chemical spectroscopy survey.

5. The method of claim 1, wherein performing a conduit plugging operation using the identified subterranean conduit coordinates comprises drilling a relief well to intersect the subterranean conduit.

6. The method of claim 5, further comprising identifying a formation layer of interest, and drilling the relief well to interest the subterranean conduit at or near a bed boundary corresponding to the formation layer of interest.

7. The method of claim 5, further comprising performing cementing operations via the relief well to plug the subterranean conduit.

8. The method according to any one of claims 1 to 7, wherein processing the seismic survey data to identify subterranean conduit coordinates comprises identifying a two-dimensional trajectory of the subterranean conduit.

9. The method according to any one of claims 1 to 7, wherein processing the seismic survey data to identify subterranean conduit coordinates comprises identifying a three-dimensional trajectory of the subterranean conduit.

10. The method according to any one of claim 1 to 7, wherein processing the seismic survey data to identify subterranean conduit coordinates comprises applying at least one of conduit identification parameters or an earth model filter to the seismic survey data.

11. The method according to any one of claim 1 to 7, wherein processing the seismic survey data to identify subterranean conduit coordinates comprises comparing primary wave data and shear wave data.

12. A system that comprises:

at least one seismic source;

at least one seismic receiver to collect seismic survey data in response to at least one shot fired by the at least one seismic source; and

a processing unit in communication with the at least one seismic receiver, wherein the processing unit analyzes the collected seismic survey data to identify subterranean conduit coordinates and a plug point coordinate for use with conduit plugging operations.

13. The system of claim 12, wherein one of at least one seismic source and the at least one seismic sensor is positioned downhole while the other is positioned at earth's surface.

14. The system of claim 12, wherein the at least one seismic source and the at least one seismic receiver are positioned downhole.

15. The system of claim 12, wherein the at least one seismic source and the at least one seismic receiver are positioned at earth's surface.

16. The system according to any one of claims 12 to 15, further comprising a drilling tool to receive the subterranean conduit coordinates and to drill a relief well to intersect the subterranean conduit.

17. The system of claim 16, further comprising a survey tool to identify a bed boundary of interest, wherein the relief well intersects the subterranean conduit at or near the bed boundary of interest for conduit plugging operations.

18. The system of claim 16, further comprising a cementing tool to perform cementing operations via the relief well to plug the subterranean conduit.

19. The system according to any one of claims 12 to 15, further comprising a non-seismic survey tool to identify a region of interest for collecting said seismic survey data.

20. The system according to any one of claims 12 to 14, further comprising a logging-while-drilling (LWD) tool or a wireline logging tool to adjust a downhole position of the at least one seismic source or the at least one seismic receiver.

21. The system according to any one of claims 12 to 15, further comprising an active well installation in vicinity of the subterranean conduit to recover hydrocarbons after said subterranean conduit is plugged.