

Patents – Certifications

Technology Certification and Endorsement



STATEMENT OF QUALIFIED TECHNOLOGY

Statement No:
10307736-2 Rev 0
Valid until: **2026-8-13**

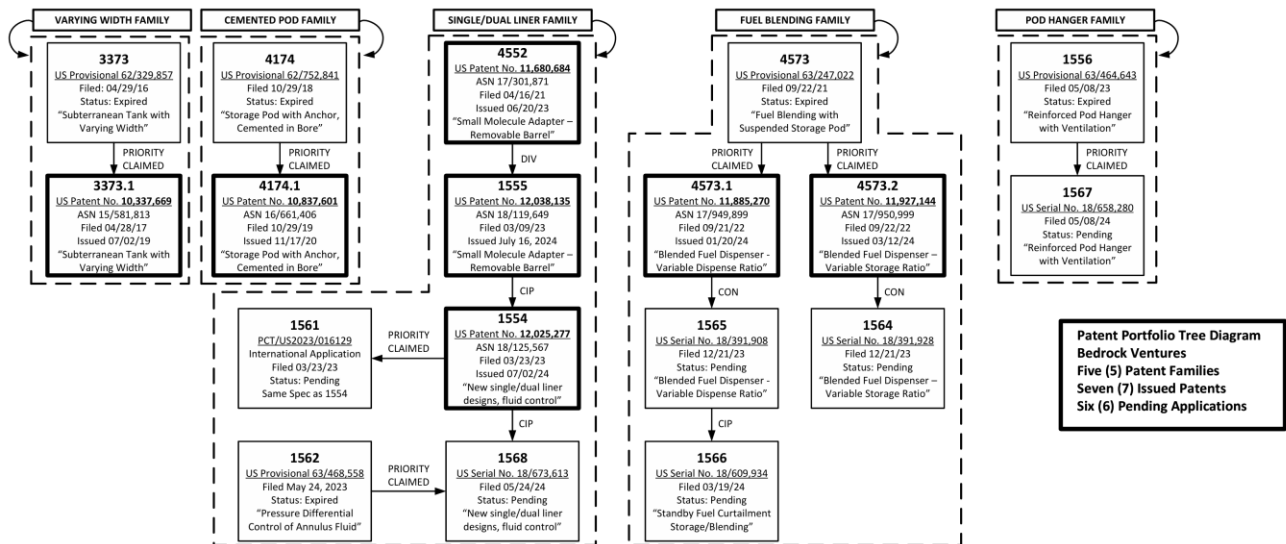
This is to state:

that the technology designated **Subsurface Pressure Pod for Compressed Nature Gas Storage** has been qualified for its designated use with basis in DNV-RP-A203 /1/ as defined in /2/.

Owner: Bedrock Ventures

Description: Subsurface Pressure Pod for Compressed Nature Gas Storage as further detailed in /3/. Each Pod consists of 7 joints of API grade casing, standing upright and extending approximately 42 feet below ground level. Pods can be cemented in dry concrete silo either for a permanent installation or allowing for replacement.

Patent Tree

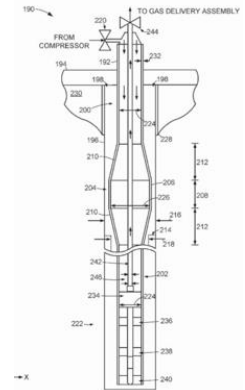


Patent Descriptions:

SUBTERRANEAN SEALED TANK WITH VARYING WIDTH - US Patent No. 10,337,669

ABSTRACT

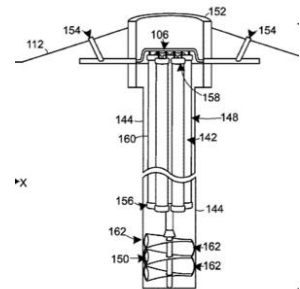
A subterranean tank can consist of at least a casing string that has a containment section disposed between first and second end regions, flic containment section may have a first width while each of the first and second end regions have a second width. The first width can be greater than the second width of the respective first or second end regions. The entire casing string may be sealed to maintain a gas at 5.0CK) psi or more until a gas delivery assembly attached to the first end region releases gas stored in the casing string.



SUBTERRANEAN GAS STORAGE ASSEMBLY - US Patent No. 10,837,601

ABSTRACT

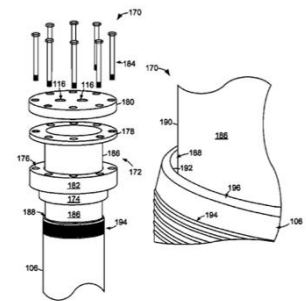
Various embodiments are generally directed to a unit secured in a single subterranean bore. The unit can be configured to store compressed hydrocarbon gas in at least one of a plurality of separate vessels that are respectively attached via at least one retainer. An anchor feature may be employed to center the unit within the single subterranean bore.



SMALL MOLECULE GAS STORAGE ADAPTER – US Patent No. 11,680,684

ABSTRACT

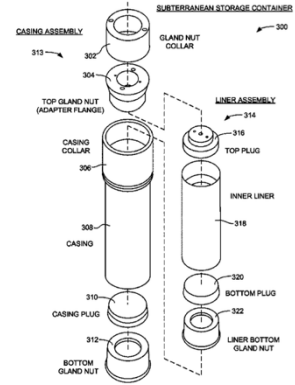
Various embodiments are generally directed to a casing connected to a top cap structure that consists of an adapter flange extending to an adapter barrel that is configured to fit wholly within the casing. The adapter barrel can be separated from the casing by an annulus that is filled to a predetermined annulus pressure while an internal chamber defined by the adapter barrel contains a gas having a small molecular size at a storage pressure that is greater than the predetermined annulus pressure.



SUBTERRANEAN GAS STORAGE SYSTEM – US Patent No. 12,025,277

ABSTRACT

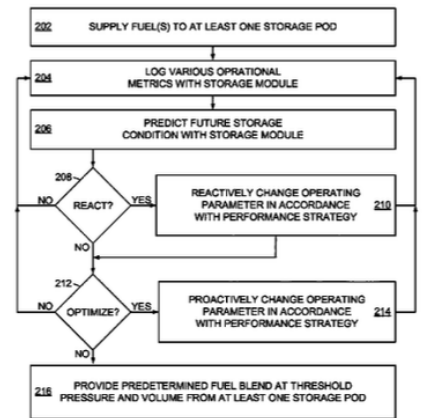
A subsurface storage container for a volume of a small molecular gas. An outer casing is axially aligned with an inner liner to define an annulus filled with a non-hardening, incompressible liquid. Sealing assemblies respectively seal upper and lower ends of the annulus and an interior storage space within the inner liner. In some embodiments, the interior storage space stores hydrogen gas at a pressure of about 10,000 psi or higher, and the liquid in the annulus comprises propylene glycol at a selected concentration which is pre-charged at a pressure such as around 3,000 psi. The liquid transfers compressive force from the inner liner to the outer casing to facilitate motor vehicle refueling operations without the need for a compressor to provide the gas at required delivery pressures. The storage container may be arranged into a group or pod that is supported by a support member over a well bore.



ENERGY UTILIZATION SYSTEM – US Patent No. 11,885,270

ABSTRACT

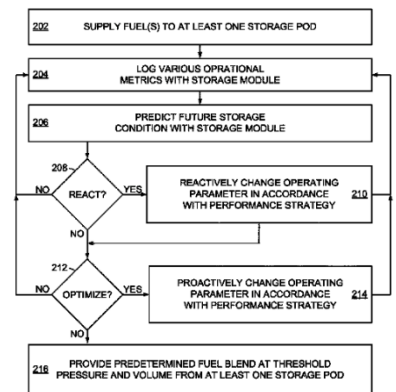
An energy utilization system can initially store a plurality of different fuels in a fuel storage pod before choosing a fuel ratio with a blend module connected to the fuel storage pod. The fuel ratio chosen in response to an electrical generation parameter tracked by the blend module. The supply of at least two of the plurality of different fuels to a power generator with the chosen fuel ratio allows for the combustion of the supplied fuels with the electrical power generator to create electricity.



INTELLIGENT FUEL STORAGE SYSTEM – US Patent No. 11,927,144

ABSTRACT

An intelligent fuel storage system can consist of a storage pod connected to a storage module with the storage pod having a plurality of separate storage vessels each residing below a ground level. The storage pod may concurrently store a first volume of a first fuel and a second volume of a second fuel prior to altering the first and second volumes in accordance with a performance strategy generated by the storage module to provide a predetermined blend of the first fuel and second fuel with at least a threshold volume and at least a threshold pressure.



SMALL MOLECULE GAS STORAGE ADAPTER – US Patent No. 12,038,135

ABSTRACT

An apparatus in the form of a subterranean storage container having a casing connected to a top cap structure. The top cap structure has an adapter flange connected to an inner liner, with the inner liner extending within the casing and separated therefrom by a circumferentially extending annulus. The annulus is filled with a noncompressible, non-hardening liquid such as propylene glycol at a predetermined pressure. The liquid supports the inner liner responsive to filling of the inner liner with a small molecule gas at a storage pressure, the liquid transferring a compressive load from the inner liner to the casing.

