1. Name and mailing address of person or group performing research (Responsible Person):

(a). Person #1

Name: Tony Haag

Work Phone: 317-778-1335

Cell/Home Phone: 317-778-1335

Fax: N/A

Email: tdhaag@strongboxwater.com

(b). Person #2

Name: Darla Michaels

Work Phone: 765-621-3883

Cell/Home Phone: 765-621-3883

Fax: N/A

Email: dmichaels@strongbox.co

2. Name and position of person completing form:

(a). Person #1

Name: Tony Haag

Work Phone: 317-778-1335

Cell/Home Phone: 317-778-1335

Fax: N/A

Email: tdhaag@strongboxwater.com

(b). Person #2

Name: Darla Michaels

Work Phone: 765-621-3883

Cell/Home Phone: 765-621-3883

Fax: N/A

Email: dmichaels@strongbox.co

3. Research Focus (PWRC Research Category):

We will conduct filed testing of Strongbox Solution's system using three sources of wastewater at the Brackish Groundwater National Desalination Research Facility (BGNDRF) with 1). Brackish water from any of the 4 wells at BGNDRF, 2). Water from BGNDRF's evaporation pound, 3). Produced water from the industry members of the NMPWRC. It is worth noting that the produced water will be tested at the end of this project, and it (i.e., treated and untreated produced water as well as the brine and permeate) will not be pumped to the brackish water wells and the evaporation ponds at BGNDRF (i.e., no cross contaminations of the feed waters). Strongbox Solution's system requirements are using a 480V 3 Phase Power – 50 AMP, a wifi signal, as well as each unit using 5 million – 7 million BTU's (dry or gas line) per hour.

4. Is the proposed use of the treated produced water to be used inside or outside of the oil and gas industry?

In this project, there will be no use of the treated produced water inside or outside of the oil and gas industry. Based on the experimental design and the performance of Strongbox Solution's system, the treated produced water will be disposed of following the NWPWRC and BGNDRF's regulations. For the purposes of this test, there will be no discharge of the produced water. The distillate will be collected in a holding tank for sampling before being blended back with the concentrated brine for reinjection into the SWD.

5. Does the location for testing the technology take place inside or outside of the oil and gas field?

It will take place outside of the oil and gas field. The testing will be conducted within the Brackish Groundwater National Desalination Research Facility (BGNDRF) campus.

6. Physical location of the research site including size and boundaries of site (include, street address, township, range, section, county, distance from closest town or landmark, directions to facility. Provide as an attachment.

The testing will be conducted within the BGNDRF's campus. The address is 500 Lavelle Rd, Alamogordo, NM

7. Topographic and aerial map(s) showing:
- **land status and adjacent land status**
- **100-year flood plain,**
- **dwellings and occupied establishments,**
- **watercourses including irrigation ditches, wetlands, lakes, karst and soils**
- **water wells (types) or springs**
- **site security**
- **site plan showing locations of relevant structures**

Shown below is the aerial photo acquired from BGNDRF (i.e., the testing site host). Strongbox Solution's system will be located within the BGNDRF facility, at testing pad #9.



8. List any regulatory, governmental and non-governmental agencies, including municipalities or counties that have authority on the testing location. Provide as an attachment.

(a). The Brackish Groundwater National Desalination Research Facility, 500 Lavelle Rd, Alamogordo, NM 88310.
(b). New Mexico Produced Water Research Consortium, 1025 Stewart St. Engineering Complex 1, Las Cruces, NM 88003

9. Provide a description of your signage plan for the testing site. Provide as an attachment.

The testing site is within BGNDRF facility. Managed by the Bureau of Reclamation, BGNDRF has been hosting the testing of produced water treatment systems at bench scale and pilot scale. It is worth noting that NMPWRC has constructed a few produced water storage and disposal tanks at BGNDRF, and we have got their permission to use them for this project. We also got confirmation from Dr. Mike Hightower that those tanks already have their own secondary containments, and NMED has already evaluated them. In case those tanks are not available for this project, we will bring our own produced water storage and disposal tanks, and set up the required secondary
containments (e.g., berms and liner that have a capacity of 1.5 times the volume of the tanks) for them.
@

10. Provide a description of your site security plan, including training and site restriction methods.

The testing site (i.e., BGNDRF) has its own security guard, who will ensure the safety of Strongbox Solution's system. Strongbox Solution will also send at least one senior research and development engineer and at least one operator to BGNDRF, who will be well-trained to conduct testing, operate the system, and follow the EHS regulations.

11. List of adjacent landowners and confirmation that adjacent landowners have been notified of the proposed pilot project. Provide as an attachment.

N/A.

12. List the source(s) of the produced water including basin of origin. Describe how the produced water will be transported to and from the site including origin and disposal locations and onsite storage safety precautionary methods. Provide as an attachment.

The produced water will be acquired from NMPWRC. The transportation and disposal of produced water be done by following the regulations from NMED, NMPWRC, and BGNDRF. It is worth noting that NMPWRC has constructed a few produced water storage and disposal tanks at BGNDRF, and we have got their permission to use them for this project. We also got confirmation from Dr. Mike Hightower that those tanks already have their own secondary containments, and NMED has already evaluated them. In case those tanks are not available for this project, we will bring our own produced water storage and disposal tanks, and set up the required secondary containments (e.g., berms and liner that have a capacity of 1.5 times the volume of the tanks) for them.

13. Provide the disposal and decommissioning plan for the expected byproducts, waste products and other potentially contaminated materials. Plan should include disposition of equipment, soils, plants and piping requiring disposal and the expected disposal locations for each. Provide as an attachment.

- Equipment: N/A – Our pilot study equipment is contained in a 20-ft shipping container. After we complete the testing at BGNDRF facility, it will be shipped back to Strongbox Solution's lab or other testing sites.
- Material: Secondary containment will be reused; other expendables of the treatment system will be disposed of based on the requirements from BGNDRF and NMPWRC
- Water: All water will be disposed of based on the requirements from NMED, BGNDRF, and NMPWRC. To be specific, the treated and untreated/used brackish water (i.e., no PFAS) and evaporation pond water will be disposed to the evaporation ponds at BGNDRF. For the treated and untreated produced water as well as the brine and permeate, it is worth noting that NMPWRC has constructed a few produced water storage and disposal tanks at BGNDRF, and we have got their permission to use them for this project to dispose of the aforementioned types of water. We also got confirmation from Dr. Mike Hightower that those tanks already have their own secondary containments, and NMED has already evaluated them. In case those tanks are not available for this project, we will bring our own produced water storage and disposal tanks, and set up the required secondary containments (e.g., berms and liner that have a capacity of 1.5 times the volume of the tanks) for them.
- Soil: We do not expect to generate any contaminated soil. In case there is any, the contaminated soil will be disposed of based on the requirements from BGNDRF and NMPWRC.

14. Describe the expected contaminants in the untreated produced water and the treated produced water (e.g. contaminants being studied, known contaminants, known additives). Include estimated concentrations if known, and copies of laboratory analyses of untreated and treated produced water. Provide as an attachment.

The untreated produced water will have the following expected water characteristics: a TDS of 30,000 ~ 120,000 PPM, a pH near 7, a residue oil concentration less than 2 PPM, and a close to zero TSS concentration. The detailed chemical composition and concentration is unknown.

15. Describe all components of the produced water processing, treatment, storage, secondary containment, and produced water system (e.g., pre-treatment units, above-ground storage tanks, etc.). Include sizes,

site layout map, closed loop processing plans, and specifications. Provide as an attachment.

Our system primarily consists of our multi-patented Mobile Flash Vaporization System (MFVS). It is a mobile unit that sets on a 26' gooseneck trailer to be easily transported with only an HD pick-up truck. The MFVS alone only takes a few hours to tie into utilities and begin processing. The MFVS has an internal pressure blower-induced combustion chamber, which is heated utilizing a fully automated low Nox, 85+% efficient gas burner, capable of running on natural well gas, line gas, CNG, LNG, or propane. It also has an internal supply/mix tank to temper all incoming water to be treated. As product water enters the system it enters the mix tank which is automated/level sensor controlled. From the mix tank, the product water is pumped into the combustion tank media at approx. 50 gpm. The burner flame is introduced into the chamber to cause the flash vaporization. The unit can vaporize up to 20 gpm. The remaining un-vaporized product water is collected into the Combustion Chamber bottom to be recirculated for reprocessing. The uniqueness of our system is that it separates the solids from the product water into the residual portion of our mix tank while destroying 98% of VOCs. As the quantity of residual increases, we pump it into a separate holding vessel. Normally it is a heavy brine that can be utilized by production operations. The MFVS is fully automated, capable of running 24 hours per day for up to 30 days without maintenance, depending on incoming water quality. The entire system rests upon an integrated internal spill tank system capable of containing all internal liquids, that is automated and controlled. All systems are PLC/touchscreen controlled on-site in the unit with VFD pump motor operation. It has over 30 controlled, and monitored programmed safety points, including internal CO2, H2S, and combustible gas sensors, along with (4) separate location temperature sensors. Any or all safety points can be programmed to shut the unit down immediately, and the entire system is also remotely monitored/controlled via WIFI, to preprogrammed cell phones, tablets, or PC devices. Previously we had permitting to exhaust the vapor directly to the atmosphere. With the increased demand for water reuse and reclamation, we wish to test a new add-on system to reclaim the condensed vapor for reuse in New Mexico.

We wish to test at the BGNDRF facility our new add-on Water Vapor Reclamation System (WVRS). It will consist of a modified frac holding tank, recirculation pump, and stack exhaust vapor condenser units. We are hopeful to take the cooler incoming product water from the BGNDRF supply tank system whether it be well water, brine, brackish, or O&G production water, and cycle it through the stack condensers chill side for enhanced condensation, and then collect the reclaimed water and remaining vapor into our adjacent frac tank. If additional cooling is required, we could utilize additional chilling and test those options on-site as well. Out of the frac tank we can sample water for quality and reuse. If additional "polishing" is requested, we can then test those systems as well. We are also hopeful that the initial collected reclaimed water will initially be a positive resource for reclamation or reintroduction in agriculture or livestock applications ASAP.

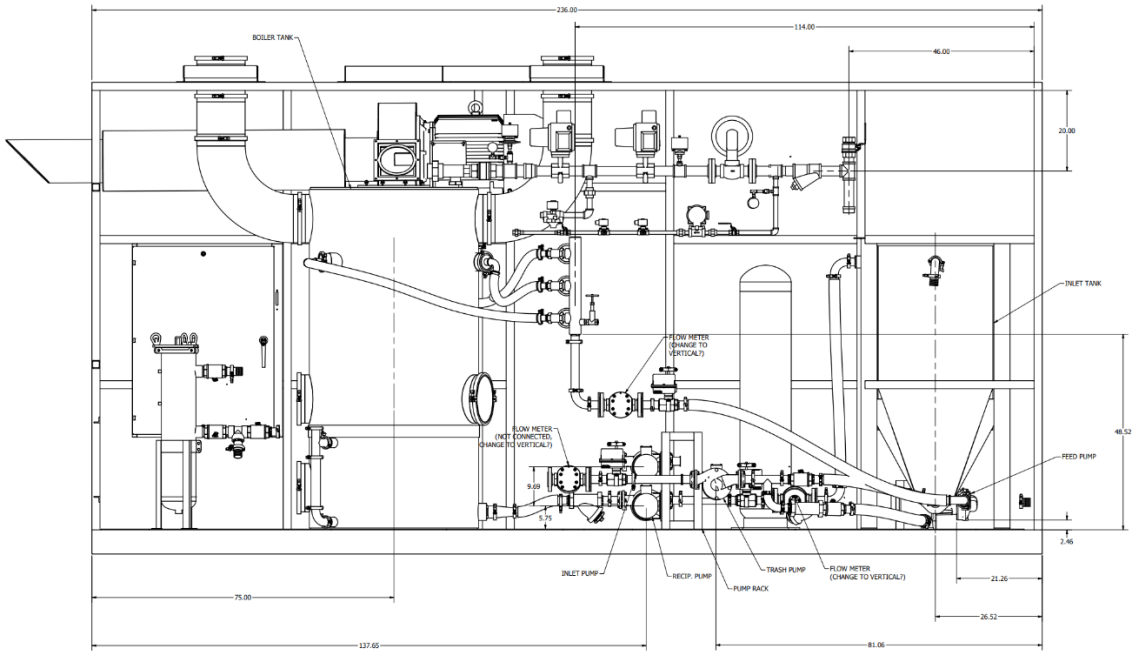
The residual heavy brine we collect and then discharge will also be tested for reuse. Depending on the wishes/direction of all involved, it will either be utilized by BGNDRF or the New Mexico Produced Water Research Consortium, who would be coordinating and providing all incoming production water from additional sponsors. If so desired/directed it could also be redirected to the BGNDRF evap pond system as well. We have worked with and planned all of these tests coordinating with and under the direction of BRGDRF director Malynda Cappelle after touring that facility and Mike Hightower, director of the NMPWRC. Their assistance has been invaluable. We have submitted all the application information they have requested for the testing as well.

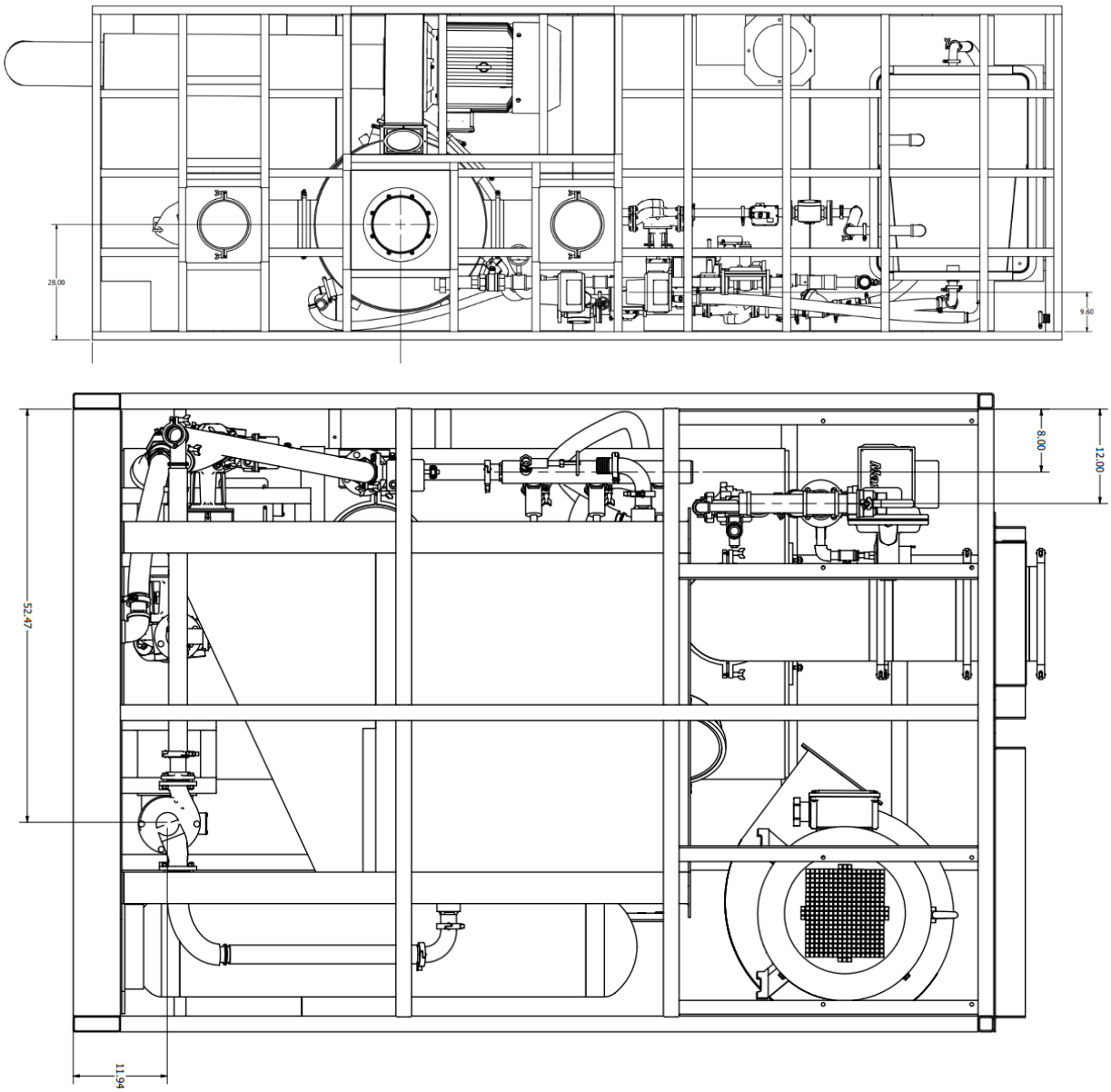
New Mexico Environment Department
Ground Water Quality Bureau

Produced Water Pilot Project
Notice of Intent to Discharge

For Department Use Only:

Agency Interest Number_____
PRD Assigned_____





16. Describe your disposal plan for all produced water, treated produced water, permeate or brine concentrate into a SWD. Provide as an attachment.

For the purposes of this test, there will be no discharge of the produced water. The distillate will be collected in a holding tank for sampling before being blended back with the concentrated brine for reinjection into the SWD. For the treated and untreated produced water as well as the brine and permeate, it is worth noting that NMPWRC has constructed a few produced water storage and disposal tanks at BGNDRF, and we have got their permission to use them for this project to dispose of the aforementioned types of water. We also got the confirmation from Dr. Mike

Hightower that those tanks already have their own secondary containments, and NMED has already evaluated them. In case those tanks are not available for this project, we will bring our own produced water storage and disposal tanks, and set up the required secondary containments (e.g., berms and liner that have a capacity of 1.5 times the volume of the tanks) for them.