



# RAILROAD COMMISSION OF TEXAS

## HEARINGS DIVISION

### AMENDED PROPOSAL FOR DECISION

**OIL & GAS DOCKET NO. 01-0305096**

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**THE APPLICATION OF PETRO WASTE ENVIRONMENTAL, LP, PURSUANT TO  
SWR 8 AND SWR 78 FOR A PERMIT TO OPERATE A COMMERCIAL WASTE  
SEPARATION AND DISPOSAL FACILITY, MCMULLEN COUNTY, TEXAS**

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**HEARD BY:** Richard Eyster, P.G. – Technical Examiner  
Clayton J. Hoover – Administrative Law Judge

**HEARING DATE:** October 16 - 20, 2017

**APPEARANCES:**

**APPLICANT:**

John Soule  
Olga Kobzar  
Pat Behling, P.E.  
Edward F. Janak, Jr., P.G.  
Dan Metcalf, P.E.  
Sammy Cooper  
Keith A. Wheeler, P.G.  
George Womack

**REPRESENTING:**

Petro Waste Environmental, LP

Attorney  
Attorney  
Engineer  
Soil Scientist  
Engineer  
Chief Operating Officer

**PROTESTANTS:**

Charles R. Kimbrough  
Gunnar Seaquist  
Michael Rubinov, P.G.  
Robert Harden, P.E.  
Robert S. Kier, P.G.  
Judge James E. Teale

**REPRESENTING:**

McMullen County

Attorney  
Attorney  
Geologist  
Engineer  
Hydrogeologist  
McMullen County Judge

Kimberly Krieder-Dusek  
Roxanne Pais – Cotroneo  
Mayor Samuel Garcia

McMullen County Attorney  
City of Three Rivers Attorney  
Mayor City of Three Rivers

Judge Jim Huff

Live Oak County Judge

J.D. Head

Attorney, McMullen Groundwater  
Conservation District.

### **PROCEDURAL HISTORY**

Application Filed:	March 21, 2014
Protest Received:	April 6, 2104
Request for Hearing:	July 29, 2014
Notice of Hearing:	August 25, 2017
Hearing Held:	October 16-20, 2017
Transcript Received:	November 3, 2017
Late-filed Exhibit Received:	November 16, 2017
Closings:	December 8, 2017
Replies To Closings	January 5, 2018
Record Closed:	January 5, 2018
Proposal for Decision Issued:	March 28, 2018
Exceptions Received:	April 12, 2018
Replies Received:	April 20, 2018
Amended PFD Issued	April 26, 2018

### **STATEMENT OF THE CASE**

Pursuant to Statewide Rule 8 (16 Tex. Admin. Code § 3.8) and Statewide Rule 78 (16 Tex. Admin. Code § 3.78) Petro Waste Environmental, LP ("PWE"), seeks authority to construct and operate a commercial stationary treatment and disposal facility, ("STF"), in McMullen County, Texas. The proposed disposal facility will be located in McMullen County, Texas, approximately four miles north of Tilden, Texas. The proposed facility is located along FM Hwy 16 and can be accessed from the north and south along this highway. The proposed approximately 330-acre Facility will be constructed on a portion of the 648 acres of ranch land owned by Lester-Powers Ranch, Inc. The Facility will be operated by PWE. The facility will accept non-hazardous Resource Conservation and Recovery Act ("RCRA") exempt oil and gas exploration and production waste under the jurisdiction of the Commission. The overall facility is identified in Commission records as Surface Treatment Facility ("STF") No. 080. The application was originally submitted on March 21, 2014.

This Amended Proposal for Decision is issued to present updated Conclusions of Law.

Notice of the application was mailed on May 20, 2014 to the adjoining landowners. On April 2015, an amended notice of the application was published in *The Progress* a newspaper of general circulation in McMullen County.

The application is protested by McMullen County, the City of Three Rivers and the McMullen Groundwater Conservation District. Initially, the City of Corpus Christi who is the majority owner of water rights in Choke Canyon Reservoir, and adjacent landowners were also protestants. However, after consulting with the City of Corpus Christi's technical experts and agreeing to modify its permit PWE reached settlements with and the City of Corpus Christi. PWE also settled with the adjacent landowners.

Based on the evidence presented at the hearing and the Findings of Fact and Conclusions of Law contained within this PFD, the Administrative Law Judge and Technical Examiner (collectively "Examiners") conclude that the proposed facility meets the requirements of Statewide Rule 8(d)(6)(A) and that its operation will not result in the waste of oil, gas, or geothermal resources or the pollution of surface or subsurface water. The Examiners recommend PWE's application be approved in accordance with the draft permit,<sup>1</sup> which governs the construction, operation, management, monitoring and closure of the facility and the individual waste management units within it.

#### **APPLICABLE LAW**

Statewide Rule 8(d)(6)(A) [16 Tex. Admin. Code § 3.8 (d)(6)(A)] states:

*Standards for permit issuance. A permit to maintain or use a pit for storage of oil field fluids or oil and gas wastes may only be issued if the commission determines that the maintenance or use of such pit will not result in the waste of oil, gas, or geothermal resources or the pollution of surface or subsurface waters. A permit to dispose of oil and gas wastes by any method, including disposal into a pit, may only be issued if the commission determines that the disposal will not result in the waste of oil, gas, or geothermal resources or the pollution of surface or subsurface water.*

#### **PUBLIC COMMENTS**

Public statements were taken on the record from a number of persons opposed to the application, including State Representatives Judith Zaffirini and Ryan Guillen both of whom supported the County's request that the hearing be held in McMullen county. State Senator Judith Zaffirini and State Representative Ryan Guillen, representing District 21, acknowledged the industry's need for waste management services, such as those offered by the proposed PWE Facility, but because the proposed facility will be on or adjacent to Salt Branch Creek, a tributary of the Frio River in McMullen County, there is strong public interest in ensuring that the facility does not contaminate this critical water supply. Due to the strong public interest State Senator Zaffirini and State Representative Guillen requested the Commission hold the hearing in Mc Mullen County.

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<sup>1</sup> PWE Exhibit No.2 RRC Draft Permit.

## **DISCUSSION OF THE EVIDENCE**

### **APPLICANT'S EVIDENCE**

The McMullen County Reclamation & Disposal Facility will be a commercial disposal facility for nonhazardous oil and gas (O&G) wastes. The proposed facility includes three waste management units (WMU), WMU 1, WMU 2, and WMU 3 and a truck wash facility.

Waste Management Unit No.1 consists of;

- Three receiving pits, Pits 1, 2, & 3,
- One Collecting Pit,
- Stormwater Retention Pond No. 1, and,
- Disposal Pit No. 1

Waste Management Unit No. 2 consists of;

- Disposal Pits Nos. 2, 3 & 4, and,
- Stormwater Retention Pond No. 2.

Waste Management Unit No. 3 consists of;

- Disposal Pit No. 5
- Stormwater Retention Pond No. 3.

Each WMU will have its own stormwater retention pond and each WMU will have a berm around its perimeter, as well as internal berms around each pit and stormwater pond.<sup>2</sup>

PWE currently has six STF permits from the Railroad Commission of Texas ("RRC") for similar facilities in other parts of Texas.<sup>3</sup> Two of the other facilities have been constructed and are currently being operated by PWE. George Wommack, CEO of the

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<sup>2</sup> PWE Exhibit No. 11

<sup>3</sup> PWE

Applicant PWE, stated that the closest STF to the proposed site is approximately 75 miles north of the facility.

PBW staff testifying at the hearing as expert witnesses were Keith Wheeler, P.G., Hydrogeologist, Patrick Behling, P.E., Engineer and Edward F. Janak, Jr., P.G. licensed Soil Scientist.

Mr. Sammy Cooper, PWE's Chief Operating Officer stated that the expected operation life of the facility is 20-40 years. He said that he is aware that a permit if granted was for an initial five-year term subject to renewal and PWE plans to apply for renewal every five years.

### **Site Characterization**

A geotechnical study was performed by Pastor, Behling & Wheeler ("PBW") to evaluate the surface and subsurface characteristics of the site.

The proposed STF site consists primarily gently rolling pastureland and is covered in brush. The site elevation ranges from about 380 feet above mean sea level (AMSL) in the northwest to 300 feet AMSL to the southeast. The land slopes gently to the south-southeast corner over a distance of one-mile. Mr. Cooper stated that "any time that you're building with any sort of elevation change across any sort of considerable distance, you have to take into account the cuts and peels. What that means is that you may take a high spot to push it into a low spot so that the resulting area is one level entity."<sup>4</sup>

Two gas gathering pipeline easements owned by Energy Transfer Company and Enterprise Products Operating, LLC and associated easements cross the site from the north to the south and west. Two additional gas gathering pipelines cross the site in the southwest corner with one continuing along the southern border of the site. These pipelines are owned by Access MLP Operating, LLP and Energy Transfer Company. The pipeline locations are shown on PWE Exhibit No. 11. A minimum 50-foot buffer zone will be maintained between the pipeline and any disposal activities.

### ***Site Geology***

The Soil Survey of McMullen County, Texas (USDA, 2011) was used to identify surface soils in the area of the Site. Thirteen soil borings were drilled on the site to a maximum depth of 100 feet. Groundwater was found in eight of the thirteen borings and fifteen primary soil types were found at the Site including the Sinton Soil Series (StB).<sup>5</sup> The StB soils are found along Salt Branch Creek and are listed as frequently flooded.

The sediments encountered beneath the Site have been grouped into the following four stratigraphic groupings based on texture and hydraulic characteristics:

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<sup>4</sup> Tr. Vol 1 pg 98, Ins 11-16.

<sup>5</sup> PWE Exhibit No. 1 Binder No. 1, pg. 0073.

1. Fat Clay (Unit CH): dark green-gray or gray, medium to high plasticity, dense to very dense, very low permeability.
2. Lean Clay (Unit CL),
3. Silts (Unit ML): Tan to dark brown, firm, dense, medium plasticity, low to moderately-low permeability.
4. Sands (Unit SP): Tan, fine grained, generally well-sorted, slightly to moderately silty, unconsolidated, relatively high permeability.

Laboratory analysis indicated that the hydraulic conductivity of the Fat Clay (Unit CH) beneath the site ranged between  $1.6\text{E-}08$  cm/sec and  $4.3\text{E-}08$  cm/sec, with an average hydraulic conductivity of  $2.3\text{E-}08$  cm/sec.<sup>6</sup> The Fat Clay (Unit CH) is relatively impermeable and exceeds the RRC criteria ( $1.0 \times 10^{-7}$  cm/sec) for an in situ clay liner. PWE contends that the "fat" clay layer and the synthetic double-lined system will ensure that no leakage from the pits will reach surface or groundwater. PWE and its consultants conclude the surficial soil characteristics are suitable for construction of the STF.

A geologic cross section was prepared illustrating the geology beneath the facility based on the stratigraphic groupings described above. The surface material typically consists of;

1. sandy clays or silts underlain by
2. dry sands.
3. lean clay unit, followed by
4. a thick sequence of Fat Clay.

When groundwater was encountered beneath the site, it typically occurred in the lower lean clay unit, between 40 and 67 feet bgl, just above the Fat Clay.<sup>7</sup>

### **Groundwater**

The site is underlain by the Yegua-Jackson Formation, a minor aquifer in Texas that extends from the Louisiana border to the border with Mexico (George, et al, 2011). The uppermost aquifer is the Jackson, made up primarily of tuffaceous sand, bentonitic clay and some lignite. The Jackson is between 1,140 and 1,260 feet thick and generally produces only small quantities of slightly to moderately saline water. Below the Jackson lies the Yegua Formation, which consists of gypsum-containing clay, sand and thin lignite

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<sup>6</sup> PWE Exhibit No. 35.

<sup>7</sup> PWE Exhibit No.1 Vol. 1 pg. 77, PWE Exhibit No 1, Vol. 2 pgs. 683-689. PWE Exhibit 46.

beds. Typically, only small quantities of slightly to moderately saline water are produced in the Yegua.

The Carrizo Aquifer is the largest source of groundwater in the county. The Carrizo is made up of medium to fine grained subangular sand and thin shale beds. The thickness of the Carrizo in McMullen County is about 1,300 feet while the depth to the top of the aquifer is approximately 3,700 feet below ground surface (bgs) in the vicinity of the proposed facility.<sup>8</sup> McMullen County's sole water source is the Carrizo Aquifer.

PWE introduced evidence the shallow groundwater was detected in 8 of 13 borings indicating that the groundwater beneath the site is found only in isolated confined lenses and is not continuous beneath the site.<sup>9</sup> Mr. Wheeler testified the site is underlain by "a thick sequence of very low permeability silts and clays, and basically the whole system acts as a confining unit. Embedded within this package of low permeability silts and clays, sometimes you get some silts that are slightly higher permeable where water has accumulated under pressure."<sup>10</sup> He also said "The depth of saturation is the depth in groundwater is encountered in a boring as you're drilling it as expressed by water on the cuttings, wet sampling equipment, moisture being blown out of the hole. Then the potentiometric surface is how much pressure that zone of saturation has and pushes it up inside the hole; the level of which that equilibrates is called the potentiometric surface, but they're two different things."<sup>11</sup> He said he based his opinion that the discontinuous lenses of groundwater beneath the site are confined or semi-confined is "because the first time we went to the site for the larger study, drilled three wells we didn't see any evidence of water as we were drilling. After we installed piezometers, in all three of the piezometers, one on this site there, very close proximity, the water level rose in those piezometers 10 to 15 feet. Then we drilled six additional piezometers during this investigation. In four of those the water level rose above the depth to saturation very clearly in four of them."<sup>12</sup>

PWE has entered evidence indicating the minimum separation between the lowest point at any depth and the depth to groundwater would be in Disposal Cell 2 where the separation between the bottom of the sump and depth to saturation is a minimum of 3.6 feet and the depth to saturation could be as deep as 20 feet beneath the bottom of the pit. Mr. Wheeler stated that throughout the site, there is generally a minimum of 12 feet of relatively impermeable clays below the floor of the pits and the most shallow groundwater.<sup>13</sup> Commission guidance requires a minimum of 2 feet separation for unlined

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<sup>8</sup> Tr. Vol. 2, pg 41 lns 12 -17.

<sup>9</sup> Tr. Vol.1 pg. 240, lns 5-9. Tr. Vol 2. pg. 14, lns 1-25, pg 15, lns 1-25. Pg 16. lns 1-25. Tr. Vol 3 pg 232 lns 18-25. and pg. 233, lns 1-25. Tr. Vol 3, pg 243, lns, 12-25, PWE Exhibits Nos. 39, 41, 40, 41, 42 & 43.

<sup>10</sup> Tr. Vol 3, pg, 233 lns 24-25, pg 234, lns 1-5

<sup>11</sup> Tr. Vol. 3 pg 233, lns 11-19. PWE Exhibit No. 39. Cross sections A-A, B-B & C-C.

<sup>12</sup> Tr. Vol 3, pg, 243, lns 21-25., pg 244, lns, 1-2. PWE Exhibit No. 29 Map of soil borings, monito well locations and cross sections, PWE Exhibit No. 39 Map of Cross sections A-A, B-B & C-C.

<sup>13</sup> Tr. Vol 2. Pg 49, lns 18-21.

pits.<sup>14</sup> The estimated horizontal groundwater hydraulic conductivity below the site is 0.1 foot per year and the vertical hydraulic conductivity is 0.01 foot per year.<sup>15</sup>

Mr. Wheeler stated that vertical hydraulic conductivity is important because if there was to be any release from the landfill at what rate that would migrate down to groundwater.<sup>16</sup> He testified that if waste leaked from a disposal pit at a rate of 0.01 foot per year it would take 100 yrs for waste leaking from a disposal pit to migrate downward one foot.<sup>17</sup> Mr. Wheeler was asked what his opinion was of the depth to groundwater as it relates to the floor or lowest point in each of the pits. He replied that "it's a minimum of 12 feet beneath the bottom of the sump, and that's a more than adequate distance to provide a secondary barrier and distance from the disposal (pits)."<sup>18</sup> Mr. Wheeler testified that "The depth to saturation in PZ-MC-14 located in Disposal Pit No. 4 (which is the closest pit to Salt Branch) is approximately 20 feet lower than Salt Branch, and you can go through every well and (in) almost every instance the depth to saturation is at a depth lower than Salt Branch."<sup>19</sup> Mr. Wheeler was asked if during his multiple site visits did he or any other PBW employee had observed any groundwater seeps along the banks of Salt Creek. He replied that they had not observed any seeps.<sup>20</sup> Mr. Wheeler said he did agree with Mr. Kier who stated in his deposition that the alleged seep was from rainfall falling on the land and discharging downhill or interflow.<sup>21</sup>

PBW contracted Banks Information Solutions to conduct a water well inventory within a one-mile radius of the site. The inventory identified one (1) water well within the one-mile radius of the site. The water well is identified as a rig supply well owned by Talisman Energy completed in the Carrizo Aquifer with a depth of 4,616 ft bgl. No water wells were identified on the Site.<sup>22</sup>

PWE submitted a groundwater monitoring well plan with a network of 17 monitoring wells surrounding the pits. Mr. Wheeler testified that "the purpose of a monitoring well network is to sample those wells on a quarterly basis to see if there's any indication of release from the disposal facility."<sup>23</sup> Two of the monitor wells will be completed at depths identified by the City of Corpus Christi, under the terms of its settlement with PWE, providing additional monitoring safeguards. Mr. Wheeler stated that he had identified a couple of sands beneath the site that were dry, but the City said, "We would like

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<sup>14</sup> Tr. Vol 2. Pg 41, lns 12-20. PWE Exhibits Nos. 45, 46 & 47.

<sup>15</sup> Tr. Vol. 1, pg 230, lns 8 -16. PWE Exhibit No. 38.

<sup>16</sup> Tr. Vol. 1, pg 226, lns 13-16.

<sup>17</sup> Tr. Vol. 1, pg 230, lns 8 -16. PWE Exhibit No. 38

<sup>18</sup> Tr. Vol 2, pg 52, lns 20-23. PWE Exhibit No. 48.

<sup>19</sup> Tr. Vol 2, pg 53, lns 6-9. PWE Exhibit No. 52.

<sup>20</sup> Tr. Vol 2, pg 57, lns 9-21.

<sup>21</sup> Tr. Vol 2, pg, 58, lns 1-16.

<sup>22</sup> PWE Exhibit No. 28.

<sup>23</sup> Tr. Vol. 2 pg. 69. lns 13-16. PWE Exhibit Nos 29 & 30.



monitoring wells installed in the sands even if they're dry, because that would be a more transmissive unit." <sup>24</sup> As a result of Corpus Christi's request PWE added two shallow monitoring wells to the monitoring plan.

### ***Surface Water***

Salt Branch Creek, an intermittent stream, crosses the western portion of the proposed facility from north to south.<sup>25</sup> From the proposed facility, Salt Branch runs 4.6 miles south to the Frio River, which flows approximately 2 miles east to Choke Canyon.<sup>26</sup> The total Choke Canyon watershed area is approximately 5,000 square miles. The total watershed area for Salt Branch on the site is 1.02 square miles. The watershed area in the proposed site contributes 0.02 percent of the Choke Canyon Reservoir Water.<sup>27</sup>

Evaporation and precipitation rates are provided by the TWDB (2013b) for one-degree quadrangles across the state. The proposed facility falls within quadrangle 909. The data provided are based on collection sites operated by the National Weather Service and the TWDB from 1954 through 2012 for evaporation and 1940 through 2012 for precipitation. The average annual precipitation is 25.42 inches and average annual evaporation is 56.69 inches. The 25-year maximum 24-hour rainfall event is approximately 7.2 inches as calculated using the TxDOT rainfall intensity-duration-frequency coefficients for McMullen County. A 100-year 24-hour storm event is estimated to produce 10.3 inches of rainfall and a 500 year 24-hour storm event is estimated to produce 12.9 inches of rainfall.

Mr. Janak, soil scientist for PWE stated that he visited the site three times looking for indications of wetlands on the site. Mr. Janak said that in order for an area to be a wetland, it has to possess three properties; hydric soils, hydrophytic vegetation or wetland hydrology. He stated that he dug 10 or 12 holes primarily along the northern portion of Salt Branch and some in the southern portion of the site. Mr. Janak testified that "the logical place for wetlands to exist, if they do, is in the low places, you know, where water goes. So that's Salt Branch, being the largest drainage feature on the site".<sup>28</sup> He said that he dug the dozen holes ranging from immediately adjacent to the channel itself to perhaps as much as 300 feet away from the channel. He stated that he did not find any hydric soils, hydrophytic vegetation or wetland hydrology on the site.<sup>29</sup> Mr. Janak testified "My determination was that wetlands were not present on the site."<sup>30</sup>

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<sup>24</sup> Tr. Vol. 2, pg. 70, Ins 13 -21. PWE Exhibit No. 55.

<sup>25</sup> Tr. Vol. 1 pg. 182, Ins, 14-19.

<sup>26</sup> Tr. Vol 4. Pg 165, Ins 9-23. County Exhibit No. 19, pg 8.

<sup>27</sup> Tr. Vol 2, pgs 139, Ins 3-5. Pg 141. Lns 3-8. PWE Exhibit No. 56.

<sup>28</sup> Tr. Vol 1. Pg 138 Ins 9-12.

<sup>29</sup> Tr. Vol. 1. pg 138 Ins 15-25., pg139, Ins 1-25. Pg 140. Lns 1-13.

<sup>30</sup> Tr. Vol. I, pg. 140, Ins 12 -13.

Mr. Janak was asked if he had noticed the presence of salt in Salt Branch Creek, he said that he had observed "salt in the creek, there's a stock pond on Salt Branch immediately north of the site, and from below that stock pond down to through this area is the most dramatic expression of salt-affected soils."<sup>31</sup> Mr. Janak was asked if he was familiar with the Protestants experts' theory is that shallow groundwater percolating to the surface saturates the soils and deposits the salt? He replied that he didn't agree with the Protestants opinion because he didn't see any saturated soils in the dozen holes that he dug, including holes in the channel of Salt Branch. He testified "if groundwater were in fact coming up and depositing salt at the surface, it would seem to me that the soil would be saturated more than sufficiently to express, you now, these redoximorphic features."<sup>32</sup>

PWE entered into a settlement agreement with the City of Corpus Christi the majority water rights owner of the water in the Choke Canyon Reservoir. One of the settlement terms PWE reached with the City of Corpus Christi was a permit condition to design the facility to handle a 100-year 24-hour storm event with two-feet of freeboard in the pits. In a separate provision of the settlement agreement, the facility will be designed to handle and accommodate and contain a 500-year flood with a 500-year 24-hour storm with respect to contact water without two-feet of freeboard. The Railroad Commission's guidance of these types of facilities says must be designed to handle a 25-year 24-hour event. Each disposal pit will have a dedicated contact water collection area that is designed to contain all rainfall on the pit for a 500-year, 24-hour storm. Each receiving pit and the collecting pit are designed to contain rainfall from a 500-year, 24-hour storm on the pits themselves, as well as contact water runoff from the low permeability pavement areas adjacent to these pits from a 500-year, 24-hour storm. In addition, there is adequate additional storage capacity designed into the collecting pit and receiving pits to allow for all contact water from a 500-year, 24-hour storm that has accumulated in the active disposal cell to be pumped into the collecting and receiving pits. Each waste management unit will be surrounded by earthen berms to contain all runoff within the waste management unit and to divert run-on from areas outside the waste management unit away from the unit.<sup>33</sup>

Due to the presence of Sinton sandy clay loam (StB) soils, which are listed as moderately drained, frequently flooded soils, within the bed and banks of Salt Branch, PWE commissioned a site specific 100-year floodplain study to determine if the proposed facility was in the Federal Emergency Management Administration (FEMA) 100-year flood plain. PWE introduced testimony from Mr. Wheeler and evidence in the form of a FEMA 100-year flood plain map that indicated that the site was not in the FEMA designated floodplain. There is evidence of a FEMA 100-year floodplain north, west of the proposed facility and south of the facility. Mr. Wheeler stated that "It's our conclusion that a FEMA map exists, and site operations will not be located within the hundred-year floodplain."<sup>34</sup>

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<sup>31</sup> Tr. Vol. 1. Pg 148, Ins 1-5. PWE Exhibit No. 20.

<sup>32</sup> Tr. Vol. , pg 149 Ins 10-14.

<sup>33</sup> Tr. Vol.1, pg 17, Ins10-14. PWE Exhibit No. 16 Corpus Christi Settlement.

<sup>34</sup> Tr. Vol.1 pg 193, Ins 8-14. PWE Exhibit No. 25 FEMA Floodplain Map.

In addition to the 100 year flood plain delineation model ran by PWE, the PWE settlement with the City of Corpus Christi also required PWE to run two additional models of the 100-Year Flood Plain study. The two additional models used a Manning's coefficient of 0.025 from the northern boundary of the Facility to the pipeline crossing in the middle of the site and a coefficient of 0.1 from the crossing to the southern boundary of the Facility. One model was run with the existing stock pond between the crossing and the southern boundary of the facility left in place; the other was run removing the stock pond. The purpose of these additional model runs was to determine if additional riprap or other action was necessary to control erosion. Mr. Metcalf in an October 24, 2016 letter to Mr. Cooper stated that based on his study the proposed cells will have a minimal impact (0.87 acres) on the mapped flood zone. He stated that the depth of the floodwater in Salt Branch would be approximately 1.8 feet deep at a calculated velocity of 2.7-5.9 feet per second which is considered to be non-erosive, 6 feet/second being the threshold between erosive and non-erosive.<sup>35</sup> PWE also agreed to place riprap or similar erosion-preventing material on all affected berms along Salt Branch to the projected water surface level in Salt Branch resulting from a 500-year/24-hour event.<sup>36</sup> Riprap will be installed at the toes of the berms for Disposal Pit No. 4, Stormwater Ponds Nos. 1, 2 and 3 to provide adequate protection.<sup>37</sup>

The outside toe of the perimeter berms for Disposal Pit No. 4 in WMU 2, Stormwater Pond 2, also associated with WMU 2 and Stormwater Pond 1(WMU 1) will have rock riprap stones with a median element diameter of 6-inches installed over the lateral extent of the appropriate berm wall, as specified in the application, and the construction must be consistent with the March 30, 2017 " Rip Rap Flood Protection Plan and Detail diagram which is included in the draft permit as Permit Appendix B.<sup>38</sup> Mr. Behling testified that " the riprap is designed to extend five feet above the toe of the berms in all of these locations.<sup>39</sup>

PWE also agreed to Corpus Christi's request to remove the words "above grade" from the Active Draft Permit where it states that once a disposal cell "begins to receive waste above grade, the cell shall be maintained to contain all contact stormwater that may be generated during a 25-yr, 24-hour storm event. <sup>40</sup> As part of the settlement agreement with the City of Corpus Christi a 100-foot buffer must be maintained between all waste management units and drainage features or surface waters

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<sup>35</sup> Tr. Vol. 2 pg 121, lns 9-11.

<sup>36</sup> Tr. Vol. 2, pg 120, lns 1-25. pg. 121, lns. 1-25. PWE Exhibit No. 56 The Delineation of the 100 Year Flood Impacts on Salt Branch. PWE Exhibit No. 57 The Delineation of the 100 Year Flood Impacts on Salt Branch Supplemental Analysis of 500 Year 24-Hour Storm Event.

<sup>37</sup> Tr. Vol 2. Pg 122 lns 13-17. PWE Exhibit No. 58.

<sup>38</sup> PWE Exhibit No. 2, pg 9. PWE Exhibit No. 82, Riprap Flood Protection Plan

<sup>39</sup> Tr. Vol. 2, pg 218 lns 24 -25 pg 219 lines 1-6.

<sup>40</sup> PWE Exhibit No. 16 Recorded Corpus Christi Settlement pgs, 1-5, items 1-29.

### ***Waste Management and Operation***

Sammy Cooper, the Chief Operating Officer of Petro Waste Environmental, LLC, testified that the proposed facility may receive only wastes that are subject to the jurisdiction of the Commission. The facility will be authorized to receive only solid oil and gas waste subject to the jurisdiction of the RRC. Specifically, the facility will be authorized to receive Resource Conservation and Recovery Act (RCRA)-exempt, non-hazardous oil and gas waste and RCRA non-exempt oil and gas waste with non-hazardous characteristics such as water-based drilling fluids and associated cuttings; oil-based drilling fluids and associated cuttings; tank bottoms from gas plants, crude oil reclamation plants, and crude oil production/separation facilities; contaminated soils from crude oil or condensate spills, pipeline and saltwater spills from production operations; material from produced water collecting pits; and formation sands and other solids from saltwater storage tanks or vessels and saltwater pits; RCRA non-exempt wastes may be accepted upon determination that the material is characteristically non-hazardous. No hazardous waste, as defined by the U.S. Environmental Protection Agency ("U.S. EPA"), may be received for treatment or disposal.<sup>41</sup>

Waste will be delivered to the facility by authorized waste haulers. Incoming waste will be tested for liquid content using the paint filter test. The paint filter is an EPA-approved test method (EPA 9095B) to determine the presence of free liquids in a representative sample of waste. Once the O&G waste has met the requirements for disposal, the waste will either be placed in the active disposal pit cell (if the material passes the paint filter test and is considered a solid) or one of the receiving pits (if the material fails the paint filter test and is considered a liquid). The material will be allowed to dry in the receiving pits. Solids will be removed from the receiving pits and placed in the active disposal pit cell. Liquids will be transferred to the collecting pit for temporary storage and will be further separated into recoverable hydrocarbons and wastewater either in the collecting pit or in the oil separation tanks near the truck wash area. Recovered oil will be stored in the oil storage tank near the truck wash area. Wastewater will either be reused in the truck wash or returned to the collecting pit prior to transportation via truck to a nearby commercial salt water disposal well (SWD) for disposal.

Only one disposal cell will be allowed to be active at any one time. Once the first disposal cell has reached its capacity, PWE will request permission from the Commission to construct the second disposal cell. The same would be true when disposal Pit No.2 starts to reach its capacity and Disposal Pit No.3 is going to be constructed. When the first disposal cell is closed, and Disposal Cell 2 is constructed and authorized to begin receiving waste, Disposal Cell No.1 must be undergoing closure, capping and closure.<sup>42</sup>

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<sup>41</sup> 40 Code of Federal Regulations Part 261. Tr. Vol 1. Pg 81, Ins, 1-25.

<sup>42</sup> Tr. Vol 2. Pg. 191, Ins 8-25. Pg. 192, Ins, 1-8.

### ***Pit Liners***

The disposal cells and the receiving pits in each waste management unit will be lined with a synthetic double-lined system from the pit bottom extending up the sides of the pits. Describing the liners from the bottom up;

1. Each of the five disposal pits and three receiving pits will have 12 inches of compacted clay subgrade to provide a smooth surface to construct the multi-component liner on.
2. On top of the subgrade a Geosynthetic Clay Liner (GCL) (the equivalent of two feet of low permeability clay) will be installed.
3. Next, a 60-millimeter (mil) high-density polyethylene (HDPE) secondary liner and a 60-mil HDPE primary liner with leachate collection and leak detection systems will be installed in each pit.
4. The primary liner and leachate collection system will be covered with at least 24 inches of protective soil excavated on-site.
5. The collecting pit will have 12 inches of compacted subgrade, a GCL, a 60-mil HDPE secondary liner and a 60-mil HDPE primary liner with a leak detection system between the primary and secondary liners.

At least two feet of freeboard will be maintained in all pits and each pit and waste management unit will be surrounded by an earthen berm. The receiving and collecting pits will also be surrounded by concrete curbs. Each of the lined pits will be equipped with a leachate collection system where appropriate.

### ***Receiving Pits***

There will be three receiving pits, Receiving Pit No.1, Receiving Pit No.2, and Receiving Pit No.3. Use of the pits will be limited to the collection of non-hazardous oil and gas wastes as specified in PWE Draft Permit Condition II.A. prior to disposal by injection into a Class II disposal well or placement into the active onsite disposal pits. No other oil field fluids or oil and gas wastes may be stored or staged in the pits.

Receiving Pits Nos. 1, 2 and 3 will be constructed in accordance with the liner installation methods included in the application and consist of 12-inches of compacted subgrade, a Geosynthetic Clay Liner (GCL) liner, a 60-mil high-density polyethylene (HDPE) secondary liner, and a 60-mil high-density polyethylene (HDPE) primary liner. The primary liner shall be covered with at least 24 inches of protective soil that is excavated from on-site.<sup>43</sup>

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<sup>43</sup> PWE Exhibit No. 2 Draft Permit pg MC01-016094.

1. Receiving Pit No.1 will have dimensions no greater 350 feet 172 feet by 10.0 feet. The usable capacity must not exceed 57,063 barrels or 11.866 cubic yards.
2. Receiving Pit No. 2 must have dimensions no greater than 350 feet by 172 feet by 10.3 feet. The useable capacity must not exceed 58.627 barrels or 12.191 cubic yards.
3. Receiving Pit No. 3 will have dimensions no greater than 422 feet by 287 feet by 10.6 feet. The useable capacity must not exceed 57.338 barrels or 1 1.923 cubic yards.

At least two feet of freeboard will be maintained between the fluid level in each of the pits and the top of the pits. Each Receiving Pit will be equipped with a sump that is 12 feet by 20 feet. Fluids that collect in the sump shall be transferred to the Collecting Pit for temporary storage by pump or vacuum truck. Protective berms will be constructed to completely surround each pit or waste management unit. Each Receiving Pit will be equipped with a Leak Detection System (LDS), which will consist of a geonet drainage layer with a thickness of at least 200-mils placed between the primary and secondary liners, along with a leak detection trench/sump and riser that are designed to maintain sufficient capacity to n allow continuous flow and fluid evacuation. The liner systems and the LDS will be installed in accordance with the material manufacturer's specifications and sound engineering practices. The floor of each pit will have at least a 2% slope to allow fluids to freely drain to the leak detection sump.

### **COLLECTING PIT**

Use of the single collecting pit will be limited to the collection of non-hazardous oil and gas wastes and contacts stormwater. No other oil field fluids or oil and gas wastes will be stored or staged in the pit. The Collecting Pit will have approximate dimensions of 399 feet by 266 feet by 19.4 feet. The usable capacity will not exceed 109.596 barrels. The Collecting Pit shall be designed and constructed to collect and contain all contact stormwater over the area encompassing the receiving pits and the surrounding low permeability paving that may be generated during a 100-year, 24-hour storm event, while maintaining a minimum two-feet of freeboard. At least two feet of freeboard will be maintained between the fluid level in the pit and the contact stormwater influent culvert within the pit. The pit will be constructed in accordance with the liner installation methods included in the application and will consist of 12 inches of compacted subgrade, a 60-mil HDPE secondary liner, and a 60-mil HDPE primary liner. The pit will be equipped with a leak detection system, which will consist of a HDPE drainage net with a thickness of at least 200-mils placed between the primary and secondary liners, along with a leak detection trench/sump and riser. The floor of the pit will have at least a 1% slope to allow fluids to drain to the leak detection sump. If the leak detection system indicates a possible liner system failure, the liner system will be inspected for deterioration and leaks within five days of the initial detection of the failure. No additional waste shall be added to the pit in the event of a failure.

### ***Disposal Pits***

Five disposal pits will be constructed at the Facility. The disposal pits will be configured as follows:

1. Disposal Pit No.1 will have approximate dimensions of 1,025 feet by 615 feet by 24 feet below ground surface (bgs) and 34.7 feet above grade. The footprint of the pit may not exceed 10.66 acres. The operating capacity must not exceed 2,398,770 barrels or 498,853 cubic yards to accommodate the containment of a contact stormwater, while maintaining a minimum two-feet of freeboard. The total capacity must not exceed 2,732,280 barrels or 568,210 cubic yards.
2. Disposal Pit No. 2 will have approximate dimensions of 851 feet by 561 feet by 28 feet below ground surface (bgs) and 30.8 feet above grade. The footprint of the pit may not exceed 10.46 acres. The operating capacity will not exceed 2,627,970 barrels or 546,518 cubic yards to accommodate the containment of contact stormwater, while maintaining a minimum two-feet of freeboard. The final capacity must not exceed 2,874,242 barrels or 597,733 cubic yards.
3. Disposal Pit No. 3 will have dimensions of 857 feet by 561 feet by 26 feet below ground surface (bgs) and 34.2 feet above grade. The footprint of the pit may not exceed 11.04 acres. The operating capacity must not exceed 2,847,222 barrels or 592,114 cubic yards to accommodate the containment of contact stormwater, while maintaining a minimum two-feet of freeboard. The final capacity must not exceed 3,233,945 barrels or 672,538 cubic yards.
4. Disposal Pit No. 4 will have internal waste containment dimensions no greater than 864 feet by 561 feet by 23 feet bgs and 38.5 feet above grade. The footprint of the pit may not exceed 9.73 acres. The operating capacity must not exceed 2,227,402 barrels or 463,215 cubic yards to accommodate the containment of a contact stormwater, while maintaining a minimum two-feet of freeboard. The final capacity must not exceed 2,565,984 barrels or 533,627 cubic yards.

The total combined final capacity for Disposal Pits 2, 3 and 4, shall not exceed 8,674,171 barrels or 1,803,898 cubic yards.

5. Disposal Pit No. 5 must have approximate dimensions of 1,024 feet by 852 feet with 22 feet bgs and 46.7 feet above grade. The footprint of the pit may not exceed 13.74 acres. The operating capacity must not exceed 3,379,988 barrels or 702,909 cubic yards to accommodate the containment of a contact stormwater, while maintaining a minimum two-feet of freeboard.

The final capacity must not exceed 3,774.479 barrels or 784.948 cubic yards.<sup>44</sup>

When a disposal cell is closed it will be capped. A 12-inch compacted clay layer would be placed on top of the waste. A 60 mil HTPE liner would be placed on top of the clay. A geocomposite would be placed on top of that to collect any drainage that would infiltrate down through the upper soils to the liner. 18-inches of soil with appropriate vegetation will be placed on top of the geocomposite.<sup>45</sup> The proposed draft permit calls for post closure monitoring for a minimum of five years.

### ***Truck Wash and Settling Basins***

The truck wash will be the receiving point for liquid waste entering the settling basins, either as;

1. rinsate from vessel wash,
2. direct placement of acceptable liquid waste, or
3. Contact storm water collected from active waste management units. The truck wash and the settling basins are designed as an interconnected system.

The general layout of the Truck Washout Bays and Settling Basins Area shall consist of eight truck wash bays; a dual channel Washout Trench and eight settling basins. The truck washout has one 250-bbl gun barrel separator; one 500-bbl water tank; one 300-bbl water tank; and one 500-bbl reclaimed oil tank. Liquid materials are re-used in the truck wash or will be transported offsite for disposal in an authorized facility. Skim oil, if present, will be recovered. The unloading bays are surrounded by a low permeability (cement stabilized road base) pavement that extends approximately 20-feet the west and east sides. The floor of each bay shall have a minimum slope of 2% allowing for wash water to drain into the grated Washout Trench. The washout trench shall consist of two channels that are each three-feet wide and three-feet deep and extend the full length of the unloading bays (160-feet) and will gravity drain into the settling basins prior to disposal. The usable capacity of the dual channel Washout Trench must not exceed 350 barrels.

The eight truck wash pits will be constructed out of concrete.<sup>46</sup> The truck wash will be used to wash the interior and exterior of trucks hauling oil and gas waste. The wash area will be constructed of steel-reinforced concrete and will include eight truck wash bays. Wastewater from the wash bays will drain through concrete trenches to one of two concrete settling basins. The settling basins are configured to allow solids to settle out

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<sup>44</sup> PWE Exhibit No 2, Draft Permit

<sup>45</sup> Tr. Vol 2, pg.163, lns, 12-17.

<sup>46</sup> Tr. Vol 2, pg. 152, lns 11- 25, pg, 159, ln 1-6. PWE Exhibit Nos. 60, 61, 62, 63, 64, 65, 66, 67, 68.



and oil to accumulate in designated areas for removal. One end of each basin will be accessible by excavators, bulldozers, backhoes, etc. to allow for settled solids removal. Solids will be removed from the settling basin and transported off-site for proper management. The pad will be surrounded by a concrete curb to prevent any migration of waste from the truck wash. Any oil recovered from operation of the truck wash will be stored on site until sold and will be reported on Form P-18. Precipitation on the truck wash and settling basins will remain in the units. Precipitation on the adjacent storage tanks will be contained in the associated containment area and periodically transferred to the settling basin or recycled water storage tanks for use as wash water. The truck wash is designed so that no runoff will leave the truck wash facility.<sup>47</sup>

The truck wash bays and settling basins are designed as an interconnected system. The washout trench will convey washout water from the truck wash area to the settling basins for processing. The truck washout unloading area will consist of an above grade structure that will have eight washout bays that are approximately 20 feet wide by 50 feet long. The slab shall be constructed of reinforced concrete with a minimum thickness of 12 inches. The unloading bays are surrounded by a low permeability (cement stabilized road base) pavement that extends approximately 20-feet the west and east sides. A concrete curb shall be constructed that is 12-inches in height by three-feet wide and completely surrounds the truck wash unloading bays and settling basin area.

### ***Settling Basins***

The eight settling Basins, are an interconnected weir system used to passively separate the incoming fluids and waste received from the Washout Area. Settling Basins P012119A, P012119B, P012120A, and P012120B will have approximate dimensions of 61 feet long by 12 feet wide by six feet deep. Each pit must be lined with reinforced concrete with a minimum thickness of 12 inches. The usable capacity for each pit must not exceed 420 barrels. Settling Basins, Permit Nos. P012119C, P012119D, P012120C, and P012120D will have approximate dimensions of 25 feet long by 12 feet wide by six feet deep.

Each pit will be lined with reinforced concrete with a minimum thickness of 12 inches. The usable capacity for each pit shall not exceed 320 barrels. The total combined permitted capacity for all eight Settling Basins shall not exceed 2,960 barrels. Use of the Settling Basins is limited to the collection of wastes generated from the Truck Unloading and Washout Area and other oil and gas wastes specified in Permit Condition II. A. No other oil field fluids or oil and gas wastes may be stored or disposed of in the pits. At least two feet of freeboard must be maintained between the fluid level in each of the pits and the top of the pit wall. The concrete liner must be installed and maintained in accordance with best management and sound engineering practices.<sup>48</sup>

### ***Financial Assurance***

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<sup>47</sup> PWE Exhibit No. 1 Binder No.1, pg 00366

<sup>48</sup> PWE Exhibit No. 2, Draft Permit. pg. MC01-016092

PWE has an active Organization Report (Form P-5, Operator No. 660029), and has filed a \$25,000 bond for financial assurance. Before accepting any waste PWE will be required to file financial security in the amount of \$4,033,880.

### ***Post-Closure Care And Monitoring***

In accordance with 16 TAC § 3.78 the permittee will maintain financial security in the amount of \$357,000.00 after the facility has been closed for the post-closure monitoring requirements in accordance with this permit. Technical Permitting reserves the right to revise this amount, as necessary. Prior to closure an updated post-closure cost estimate must be submitted to Technical Permitting in Austin, and any additional financial security must be filed with and approved by the RRC prior to the operating financial security referenced in Permit Condition I.B. will be released.

### **PROTESTANTS' EVIDENCE**

The Protestants are McMullen County, Texas ("County"), the City of Three Rivers, Texas ("City"), and the McMullen Groundwater Conservation District ("District"), (collectively the Protestants). McMullen County Judge James E. Teal, Live Oak County Judge Jim Huff, and Samuel Garcia Mayor of the town of Three Rivers, testified for the Protestants. Testifying as expert witnesses for the Protestants were Robert (Bob) Harden P.E., Robert S. Kier, P.G. and Michael Rubinov, P.G.

Protestants' opposition to the facility is due to (1) the proposed facility is in the Frio River/Choke Canyon Reservoir watershed, (2) an intermittent creek, Salt Branch, runs through the site and, (3) there is shallow groundwater beneath the proposed facility.

Judge Teal testified, on behalf of McMullen County, that "I'm here to protest the location proposed location of the PWE facility in McMullen County, Texas on the banks of Salt Branch Creek." Judge Teal stated that his main worry about the proposed facility "is not an immediate worry, but in the future. What's going to happen to this waste in the future? How is it going to affect future generations? If I'm in the fifth generation of my family, how many generations will it be before something happens that causes this to pollute the watershed?"<sup>49</sup>

Judge Teal stated that he was very much aware that the PWE proposed facility in McMullen County would handle the drill cuttings and other solid waste generated by drilling and completion operations in McMullen County. He also stated that the decision to file a protest of the application was made before County experts reviewed the McMullen Facility application.<sup>50</sup>

<sup>49</sup> Tr. Vol 4, pg. 248, Ins. 16-21, pg 251, Ins. 10-12. PWE Exhibit No. 2 Draft Permit.

<sup>50</sup> Judge Teal September 21, 2017 Deposition, pg. 60, Ins. 4-7

During Judge Teal's September 21, 2017 deposition, he was asked "Is there any location within McMullen County where the County would not oppose a waste disposal facility application?" Judge Teal answered No.

In cross examination during the hearing he was asked by Ms. Kobzar in "So is it then your position as the County Judge that a facility of this nature and size could not be located anywhere within the watershed of McMullen County?" Judge Teal answered, "You are correct about that."

Live Oak County Judge Jim Huff representing the Commissioners Court of Live Oak County testified that the Court passed an order on July 10, 2017 supporting the protest of the proposed facility.<sup>51</sup> Judge Huff stated that "I've educated myself on some more of the soils types and some of the technical issues, and I could not probably answer many questions about either one of those. "I am convinced that this facility in this particular place poses a threat to serious pollution in the Frio water basin because of its location."<sup>52</sup>

Ms. Cotroneo City Attorney for the town of Three Rivers stated "The reason why the City of Three Rivers is protesting this application is because the site location actually has Salt Branch Creek that runs right through it. In fact, the disposal cells are in Salt Creek Branch. The disposal cells are 10 feet in the ground to 40 to 50 feet up in the air are in the creek."<sup>53</sup>

Mayor Samuel Garcia representing the City of Three Rivers testified that he had three primary concerns, One, the proposed site has Salt Branch running through it. His second concern was "trying to find out how this thing (facility) was going to be constructed, more so like the integrity of the facility that was going to be built on that location." His third concern was " what was going to be brought in to these cells to be housed there and how it was going to be housed and could it withstand things as far as flooding, the wind that might affect it as far as in the location where it was going to be, and could it, withstand those flood damages that might come with a 100-year or a 500-year flood damage."<sup>54</sup>

The Protestants also contend that the Texas Railroad Commission is biased against them due to the fact that in 2016 Mr. Grant Chambless, who at that time, was the manager of the Commission's Technical Permitting Section, asked one of PWE's expert witness's Mr. Janak to serve on an advisory committee developing guidance on oil and gas disposal facilities and that no local governments were invited by Mr. Chambless to serve on the committee. <sup>55</sup>

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<sup>51</sup> Tr. Vol 4 pg. 231, Ins 12-25. County Exhibit No. 17.

<sup>52</sup> Tr. Vol 4, pg. 236, Ins 1-7.

<sup>53</sup> Tr. Vol 1, pg. 22, Ins 12-25.

<sup>54</sup> Tr. Vol 5, pg 160, Ins 1-25.

<sup>55</sup> Tr. Vol 4, pgs. 76-85, Ins 1-25.

In addition, Protestants contend that various rule violations and incidents at salt water disposal wells owned by Pyote Well Service ("Pyote"), a company for which PWE's CEO, George Wommack, once worked and which is partially owned and managed by H.H. Wommack III, father of PWE's president, should be considered as evidence of PWE's reputation for not complying with Commission requirements.

Although Wommack family trusts own a very small portion of each entity, the overlap in ownership is insignificant. Furthermore, it is uncontroverted that no one from Pyote has any legal or actual responsibility for or authority to make day-to-day operational decisions for PWE or vice versa.<sup>56</sup> Although there was evidence of meetings and informal conversations in which H.H. Wommack III spoke to PWE employees about various issues, there is no evidence to support actual legal management of PWE by anyone other than George Wommack, the CEO of PWE, and the other officers of PWE.

### ***Groundwater***

The Protestants contend that there is shallow, unconfined groundwater beneath the site that would be contaminated if there were to be a leak in the dual synthetic liner system.

Mr. Robert Kier testified that he had visited the site twice, once in February 2015 and the second site visit was in October of 2016. He stated that during his first visit he noticed water coming out of a cut bank into Salt Branch just northeast of disposal pit No.4. in WMU 2. He said the cut bank seep was on the left bank looking downstream or the east side of the stream, opposite from where the WMU 2 will be constructed. Mr. Kier testified that the cut bank was "18 inches, two-foot high, lag gravel deposit and the water was clear. He opined that he regretted not "tasting the water."<sup>57</sup> Mr. Kier stated in his deposition beginning at Line 7 on Page 109, "Interflow, which is what I thought the water coming out (of the seep) was at that time, and it may still be, is rainfall that soaks into the ground, perhaps reaches a slightly less permeability barrier and moves laterally and commonly discharges into a stream or on the side of a hill sometime after a precipitation event."

Mr. Kier testified that he had taken pictures of the seep on his cell phone but due to technical difficulties "Sometime later almost all of the photos and all the notes I had made out in the field, evaporated" and that he does not have a photograph of the seep. Mr. Kier also stated that Mr. Harden also saw the seep during the 2015 visit. He stated that he did not see the seep during his second site visit in 2016.<sup>58</sup>

Mr. Kier said it was his opinion that the subsurface soils are not of liner quality. He testified that the "subgrade, is only put in there to make a smooth surface on which to put this (dual synthetic liner) material, it is not being put in to liner quality which would be the

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<sup>56</sup> PWE's Closing Statement, page 19

<sup>57</sup> Tr. Vol 5, pg. 23, lns 15-24

<sup>58</sup> Tr. Vol 5, pg 24 and 25, lns 1-25.

90 percent standard proctor, 95 to, say, a modified proctor, and to have a hydraulic conductivity of less than or no more than one times 10 to the minus 7<sup>th</sup>. So that soil isn't being put in to liner quality."<sup>59</sup>

Mr. Harden, said he visited the site three times on behalf of the Protestants. The first site visit was in early 2015, the second visit was in late September or October 2016 and the third site visit was in June or July 2017. Mr. Harden said that during his 2015 site visit he observed what he described as a groundwater seep in a cut bank along the eastern bank of the upper reach of Salt Branch close to WMU 2. Mr. Harden testified that "We got to the creek and we looked up and down and we walked kind of briefly up and then briefly down. The first notable thing that I saw was seepage coming out of the bank of Salt Branch. I looked up there I saw a hill going away from the cut bank of the creek."<sup>60</sup> Mr. Harden testified that "It was just a bank near the intersection of what I call the main stream channel of Salt Branch. There's a change in topography there where it looks like a cut bank, there's just what I call a wet seepage bank right at the base of the hill, right at the juncture of the bed and banks of Salt Branch."<sup>61</sup> He said the "seepage was right on the bottom of that bank seeping out towards the creek. He stated that the seep was about 8 inches to a foot above the streambed of Salt Branch."<sup>62</sup>

Mr. Harden was asked by Mr. Kimbrough "With the water coming out above the streambed, what did that indicate to you as a professional of your tenure?" Mr. Harden replied "That rainfall falls on the hill above that point and flows downhill to this seepage bank to discharge. I see it in countless places."<sup>63</sup> Mr. Harden was asked if it was raining during his first site visit, he replied it wasn't raining but during his first visit the stream channel was wetter. The second and third time it was drier.<sup>64</sup> Mr. Harden testified that during the third site visit he saw salt crystals deposited on rocks in the creek at multiple locations. He said the salt deposits were directly upstream of the seep he saw during his first visit.<sup>65</sup>

Mr. Harden stated that he did not see the seep during his subsequent two site visits.<sup>66</sup> During cross examination by Mr. Soule, Mr. Harden was asked if, in his opinion, did the description of soil type StB, well drained, explain the seep that he observed during his first visit to the PWE site and if he agreed with Mr. Kier that the seepage is interflow. He answered, "I believe it is, yes".<sup>67</sup>

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<sup>59</sup> Tr. Vol 5. pg 56, lns, 1-20.

<sup>60</sup> Tr. Vol 4, pg 134, lns, 23-25, pg 135 lns, 1-4.

<sup>61</sup> Tr. Vol 4, pg 136 lns, 5-12.

<sup>62</sup> Tr. Vol 4. pg 138, lns, 15-25. pg. 139 lns, 1-10.

<sup>63</sup> Tr. Vol 4. pg 139, lns, 1-10.

<sup>64</sup> Tr. Vol 4. pg 146, lns, 14-18.

<sup>65</sup> Tr. Vol 4, pg. 149. lns 4-6, County Exhibit No.19, pictures of salt in creek bed.

<sup>66</sup> Tr. Vol 5. pg 111 lns 13-25. Pg 112, ln, 1.

<sup>67</sup> Tr. Vol. 5, pg, 114. lns 17-25. Pg 115 lns, 1-6.

The Examiners asked Mr. Harden if there was water flowing in Salt Creek when he observed the seep. He replied, "There might have been a little bit right below that cut, but there wasn't a stream of water running down the creek." <sup>68</sup> He was asked by Mr. Kimbrough if he had formed an opinion regarding the source of the salt on the rocks that he saw on his site visit? He replied "My opinion is it's from shallow groundwater discharge seeping into Salt Branch." <sup>69</sup>

He was then asked by Mr. Kimbrough if he had a different opinion than Mr. Janak's theory that the source of the salt on the rocks was from the construction of the offsite stock tank. He answered "I would look at it and just say the pond is there. The photographs may show that the pond, the timing of the pond had something to do with the salt. I don't know." <sup>70</sup> He said the source of that salt could be seepage from that pond. <sup>71</sup>

Mr. Rubinov P.G. the final expert witness testifying for the Protestants stated that he had also visited the site twice, the first visit was in August-September 2015. He stated that he was on site observing and taking notes on the geotechnical boring program that was being conducted, and he was also present for the construction of the piezometer wells and then subsequently the water quality and the water level testing of those wells. He said he was also there to create his own geologic logs of the subsurface material created during the geotechnical program. The second visit was on July 13th of 2017. During that site visit his purpose was to measure the water levels in the on-site piezometer wells. Mr. Rubinov stated that "I did note some concerns with their methods of data collection, specifically that some of the drilling methods (air drilling) that were used to collect the information and also methods that were used to construct the wells and to develop the piezometer wells. He stated that he didn't believe the piezometers were properly developed." <sup>72</sup> He stated that "some of the wells (piezometers) had sediment in the well". Additionally, he was critical of the air drilling used to drill the piezometers saying "If you hit a formation that has water but is not incredibly prolific the air pressure might actually keep that water from coming into the borehole while you're drilling. He also said using air drilling may blow fines away leaving "a more cohesive clay sample." Mr. Rubinov opined that the gravel pack and bentonite used in PZ-MC-15 were not properly calculated. He said "this could result in water infiltrating from the surface. The water levels may indicate something different than what you expect. You may be getting some water infiltration. That could mostly be contaminants that get placed into the well. If you're trying to monitor only a certain zone and you expect that you're monitoring only a certain zone and the water level in that zone you may be actually monitoring the water level from any other zones. So, your conclusions about a water level may not be correct." <sup>73</sup>

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<sup>68</sup> Tr. Vol 5. Pg 125, Ins 3-19.

<sup>69</sup> Tr. Vol. 4, pg 170 Ins 15-21.

<sup>70</sup> Tr. Vol. 4, pg 172, Ins 15-25.

<sup>71</sup> Tr. Vol. 4. pg 174 Ins 20-25, pg 175, Ins 1-6. County Exhibit No. 19.

<sup>72</sup> Tr. Vol 5, pg 75, Ins 12-

<sup>73</sup> Tr. Vo 5, , pgs 89,90,91, Ins, 1-25. County Exhibit No. 18.

### **Surface Water**

The Protestants argue that an intermittent stream, Salt Branch, a tributary of the Frio River, runs through the Facility between WMUs 1, 2 and 3. The Protestants are concerned Salt Branch will flood causing the waste to be released and carried downstream to Choke Canyon Reservoir.

Mr. Harden stated that he disagreed with Mr. Janaks flood plain analysis because in Mr. Hardens opinion Mr. Janak did not use a sufficient number of cross sections in his analysis. He also disagreed with the US Army Corp of Engineers determination of the Salt Creek high water mark on the proposed facility. He testified "They didn't do a site-specific review or request more site specificity with the way that the creek actually is operated there. So my opinion is the ordinary high watermark is wider than what the Corps has shown on their document and part of Waste Management Unit No 2 is located within the beds and banks of Salt Branch."<sup>74</sup> Mr. Harden testified "My opinion is the way it's delineated by the Corps is just they took Mr. Janak's one location estimate, and then just projected it down the creek, maintaining that constant 80-foot width. They didn't do a site-specific review or request more site specificity with the way that the creek actually is operated there. So, my opinion is the ordinary high watermark is wider than what the Corps has shown on their document, and part of the Waste Management Unit 2 is located within the bed and banks of Salt Creek."<sup>75</sup> He was asked if the disposal cell in WMU No. 2 was inside the creek bank, He replied "I am not sure about that. I don't think it goes into the disposal cell itself."<sup>76</sup>

Mr. Harden was asked by Mr. Kimbrough if he had an opinion about any waste released during a flood being diluted by the time it reached Choke Canyon Reservoir. Mr. Harden testified "I would say that is a true statement when you consider this facility singularly, that the watershed area of Choke Canyon is so large that the volume of water coming off the watershed itself, combined with the amount of waste that would be discharging down, it probably would be diluted depending to the constituent, depending on the volumes. But most likely it would be diluted."<sup>77</sup>

### **Stacking Waste**

Mr. Harden stated that he has concerns with the waste being stacked above grade. He said that stacking the waste above grade would create more pressure build up on the pit liner than a pit that was not stacking above grade. He testified that "because of hydrostatic pressure, those pressures are going to be pushing outwards onto the liner and the cap. They might start to cause the liner to start bulging and trying to push the anchor trench causing it to fail. He said "if the liners do leak and this soil to be stacked up 50 feet higher than the natural grade, that just allows potentially water to build up in

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<sup>74</sup> Tr. Vol 4. pg 155 Ins 12-16.

<sup>75</sup> Tr. Vol 4. Pg 155, Ins 5-20. County Exhibit No. 19

<sup>76</sup> T. Vol 4 pg 156, Ins, 17-25. County Exhibit No. 19

<sup>77</sup> Tr. Vol 4, pg, 168, Ins 14-25.

there to push that water out towards Salt Branch more readily than, say, a much lower pit."<sup>78</sup>

Mr. Harden stated that it was his opinion that the presence of Salt Branch and the above grade stacking of the material increases the risk of pollution. Mr. Harden testified "So whether there will be a violation and a pollution, I don't have the wisdom to say that. I have a lot of concern over the stability of the cap over the next 100, 300, 500 years. If the ongoing activity is going to occur for 100 to 300 years then I'll change my testimony."<sup>79</sup> Somebody may deem that the facility is whole and the necessity for ongoing monitoring is not required, and so we would stop, and now we'll go forward 50, 100, 200 years and the leak could start again and that's the scenario I'm describing."<sup>80</sup>

Finally, Protestants filed a Motion to Dismiss PWE's application and to exclude certain evidence based on PWE's supplementation of its original application. The Motion is denied. Such supplementation is an ordinary part of the permitting process and does not result in inadmissible or objectionable evidence being part of the application as supplemented.

### **CONCLUSIONS AND RECOMMENDATIONS**

The Examiners recommend that the application be approved. PWE has demonstrated that the design of the proposed facility exceeds Commission guidance and the operation of the proposed stationary treatment facility and associated pits will not harm surface or groundwater resources, as required by Statewide Rule 8. Statewide Rule 8 (d) (6) states as follows: "A permit to dispose of oil and gas wastes by any method, including disposal into a pit, may only be issued if the Commission determines that the disposal will not result in the waste of oil, gas, or geothermal resources or the pollution of surface or subsurface water." Commission guidance for this type of facility requires containment of rainfall from a 25-year, 24-hour storm."<sup>81</sup>

The proposed PWE facility is designed to ensure that all water from a 100-year storm that falls in an active pit will be contained in that pit with two feet of freeboard and that water from a 500-year storm that falls in an active pit (contact water) will be contained within that pit, but without the two feet of freeboard. Water that falls outside any active pit will flow to a stormwater retention pond or will be allowed to naturally drain from the site. PWE will be required to control erosion that might be caused by stormwater anywhere on the site. Each disposal pit has a dedicated contact water collection area that is designed to contain all rainfall on the pit for a 500-year, 24-hour storm.

Each receiving pit and the collecting pit are designed to contain rainfall from a 500-year, 24-hour storm on the pits themselves, as well as contact water runoff from the low permeability pavement areas adjacent to these pits from a 500-year, 24-hour storm. In

<sup>78</sup> Tr. Vol 4. pg. 215, Ins, 1-25, pg 217 Ins, 1-25.

<sup>79</sup> Tr. Vol 5. pg. 110, Ins1-25.

<sup>80</sup> Tr. Vol 5. pg. 111, Ins 1-7.

<sup>81</sup> PWE Exhibit No. 4, RRC Surface Waste Management Manual.



addition, there is adequate additional storage capacity designed into the collecting pit and receiving pits to allow for all contact water from a 500-year, 24-hour storm that has accumulated in the active disposal cell to be pumped into the collecting and receiving pits.

Each of the five disposal pits and three receiving pits will have 12 inches of compacted subgrade, a Geosynthetic Clay Liner (GCL) (the equivalent of two feet of low permeability clay), a 60-mil high-density polyethylene (HDPE) secondary liner and a 60mil HDPE primary liner with leachate collection and leak detection systems. The primary liner and leachate collection system will be covered with at least 24 inches of protective soil excavated on-site. The collecting pit will have 12 inches of compacted subgrade, a Geosynthetic Clay Liner (GCL), which is the equivalent of two feet of low permeability clay, a 60-mil HDPE secondary liner and a 60-mil HDPE primary liner with a leak detection system between the primary and secondary liners. Each pit and waste management unit will be surrounded by an earthen berm. The receiving and collecting pits will also be surrounded by concrete curbs. If a leak exceeding the maximum permissible Action Leakage Rate (ALR) is detected in any pit, the pit will be shut down until the leak is repaired. If the leak cannot be repaired the pit will be closed. Additionally, the waste to be disposed of into the pits will be de-watered solids. In the unlikely event that the primary liner is compromised, the leak detection system will provide a prompt signal if any liquid accumulates in the geonet netting layer above the secondary liner. If such a leak is detected, the Commission's District Office must immediately be notified, and operations would have to cease until the liner is inspected and repaired. PWE anticipates a 25-40-year life for the facility. There will be the opportunity for monitoring of leaks in the primary liner for 20-25 years, this continuous monitoring over the life of the entire project will provide immediate knowledge that the primary liners have been compromised.

The Protestants concerns are that the soils on the site are not suitable for pit liner and that stacking the waste will contribute to liner failure causing shallow groundwater to be contaminated if a liner fails. They are also concerned that a 100 year or 500 year flood in Salt Branch will wash the waste out of the pits and into Choke Canyon Reservoir

The Examiners conclude that the use of primary and secondary geo-synthetic liners, in conjunction with the leachate collection system and leak detection system will provide for protection of surface and subsurface water resources. Additionally, riprap will be placed on the berms where they would be contacted by water from whichever flood event results in the highest predicted water level. For WMU 2, Disposal Pit No 4, that event is the dam breach discharge from a nearby off-site stock pond. For Waste Management Unit 2, Stormwater Pond 2 and for Waste Management Unit 1, Stormwater Pond 1, that event is the 500-year rain event. The riprap will be placed to a height of at least two feet above the highest predicted water level resulting from such events, to provide even greater protection. The riprap will prevent any erosion that might otherwise have been caused by stormwater runoff.

**FINDINGS OF FACT**

1. Notice of application was mailed on March 27, 2014 to the offsetting landowners. On March 26 and April 2, 2014, notice of the application was published in the Progress, a newspaper of general circulation in McMullen County. Notice of application was published again on April 15 and 22, 2015 showing the proposed disposal methods. Notice of hearing was mailed to all parties on August 25, 2017.
2. Petro Waste Environmental, LP ("PWE") seeks authority to maintain and operate a commercial facility for the treatment and disposal of non-hazardous oil and gas waste under the jurisdiction of the Railroad Commission of Texas ("Commission") in McMullen County, Texas.
3. PWE has a current and active Form P-5 *Organization Report* received by the Commission on December 7, 2017.
4. The application was deemed administratively complete and a draft permit was issued on or about August 22, 2016.
5. On November 10, 2016 PWE requested modification of the draft permit resulting from a site-specific floodplain study completed after discussions with protestants and in response to their concerns relating to the presence of alluvial soils in and near Salt Branch, an intermittent creek on the Site.
6. A corrected revised draft permit was issued on or about July 24, 2017. This corrected draft permit, with minor additional corrections made during the hearing, is the permit being considered for approval.
7. The site for the proposed facility is a 330 acre-tract out of the 648-acre Lester Powers Ranch in McMullen County, Texas ("the Site"). The Site is located approximately 4 miles north of Tilden on FM Hwy 16.
8. The application is protested by McMullen County, the City of Three Rivers and the McMullen County Groundwater Conservation District.
9. Two pipelines, one owned by Energy Transfer Company, the other by Enterprise Products Operating, LLC, and associated easements cross the Site from north to south and west.
10. The Site consists of rolling pasture land covered with brush and cactus. The site slopes to the south southeast with an elevation of approximately 380' in the northeast to 300' in the southwest.

11. Salt Branch is an intermittent creek on the west side of the Site. It runs north to south between Waste Management Units 3 and 1 on the east and Waste Management Unit 2 on the west.
12. Shallow groundwater beneath the Site is a minimum of 12 feet beneath the base of all pits being permitted.
13. The Carrizo Aquifer is the primary source of fresh water in McMullen County. The top of the Carrizo Aquifer in McMullen County is at depth of 4,000 feet or more.
14. The permitted facility will accept only non-hazardous oil and gas waste subject to the Commission's jurisdiction, specifically:
  - a. RCRA-exempt non-hazardous oil and gas waste; and
  - b. RCRA non-exempt oil and gas waste with non-hazardous characteristics based on analytical results from testing for corrosivity, ignitability, reactivity, toxicity, benzene and specified metals.
15. Authorized waste from commercial oil and gas facilities and reclamation plants will be tested for TOX (Total Organic Halides). All incoming waste other than oil base mud and cuttings will be screened and, if necessary, tested for NORM. Any waste not meeting the required testing requirements set forth in the permit will not be accepted at the facility.
16. The facility will be prohibited from accepting EPA-defined hazardous waste and industrial waste.
17. PWE has financial security in the form of a \$4,033,880 bond.
18. The facility will consist of three waste management units ("WMU") and one truck-wash.
  - a. WMU 1 will include one disposal pit (Disposal Pit #1), a collecting pit, three receiving pits (Receiving Pits #1, #2 and #3) and one stormwater pond (Stormwater Pond #1).
  - b. WMU 2 will include three disposal pits (Disposal Pits #2, #3 and #4) and one stormwater pond (Stormwater Pond #2).
  - c. WMU 3 will include one disposal pit (Disposal Pit #5) and one stormwater pond (Stormwater Pond #3).

- d. The truck wash will include a dual channel washout trench, eight settling basins and associated infrastructure.
  - e. A total of 18 pit permits are required for the facility:
  - f. Truck Wash (one Dual Channel Washout Trench and 8 settling basins);
    - i. WMU 1 (3 receiving pits, one collecting pit and one disposal pits);
    - ii. WMU2 (3 disposal pits);
    - iii. WMU 3 (one disposal pit);
19. Only one disposal pit will be active and accept waste at any time.
- a. The collecting pit, the receiving pits and all disposal pits will be constructed with dual liners and leak detection systems.
  - b. The dual liner systems include a Geosynthetic Clay Line (GCL) and dual (primary and secondary) 60-mi High Density Polyethylene (HDPE) liners.
  - c. A Leak Detection System (LDS) will be installed between the dual I-DPE primary and secondary liners to identify any leaks that develop in the primary liner.
  - d. Leakage from the primary liner will be compared to a maximum permitted Action Leakage Rate (ALR).
  - e. The maximum permitted ALR for the receiving pits and the collecting pit is 1000 gallons per acre per day. The maximum permitted ALR for the disposal pits is 100 gallons per acre per day.
  - f. Each LDS must be monitored at least weekly.
- Any leak that exceeds the maximum permitted ALR will be reported to the Railroad Commission District Office within 24 hours. The liner system must be inspected for deterioration and leaks within five days. Repair and inspection by the Railroad Commission District Office will be required before a pit with a liner leak exceeding the maximum permitted ALR can be returned to operation. If the liner cannot be repaired, the pit must be capped and closed.
20. In addition to a dual liner system and LDS, receiving pits, used to hold solid waste for drying before being placed in a disposal cell, will be constructed with:
- a. Twelve inches of compacted subgrade beneath the GCL;

- b. At least 24 inches of protective soil on top of the primary liner;
  - c. A sump for the collection of fluids; and
  - d. Surrounding berms and concrete curbs.
- 21. In addition to the dual liner system and LDS, the collecting pit, used to hold nonhazardous oil and gas liquid wastes and contact storm water prior to disposal by injection in a permitted Class II disposal well, will be constructed with:
  - a. Twelve inches of compacted subgrade beneath the GCL; and
  - b. Surrounding berms and concrete curbs.
- 22. In addition to the dual liner system and LDS, all disposal pits, will be constructed with: Twelve inches of compacted subgrade beneath the GCL;
  - a. At least 24 inches of protective soil on top of the primary liner;
  - b. A leachate collection system, including a sump, to collect and allow removal of liquids that drain or "leach" from solid waste in a disposal cell.
  - c. Surrounding berms;
  - d. An anchor trench to key the synthetic liners into the berms; and
  - e. Interior and exterior ditches and culverts to convey non-contact stormwater to the associated stormwater pond.
- 23. Waste can be stacked or placed to a height not to exceed 30.8 to 46.7 feet above ground level
- 24. The Truck Washout Bays and Settling Basins Area will be constructed with eight truck wash bays, a dual-channel washout trench, eight settling basins, a separator, two water tanks and one oil tank.
- 25. Access to the facility will be restricted by a fence around the entire facility and a gate at the entrance that will be locked when the facility is not manned.
- 26. Water will be managed as contact and non-contact water.
- 27. Contact storm water (storm water that comes in contact with waste) will be contained within the waste management units until it evaporates, is moved to the collecting pit or is removed from the facility for injection in a permitted disposal well.

- a. The proposed disposal pits, receiving pits and collecting pit are designed with sufficient capacity to hold the predicted contact storm water runoff from a 100-year/24-hour storm and to maintain 2 feet of freeboard. The proposed disposal pits, receiving pits and collecting pit are also designed and will be operated with sufficient capacity to hold the predicted contact storm water runoff from a 500-year/24hour storm without 2 feet of freeboard.
  - b. A system of berms and dikes around each waste management unit will prevent stormwater run-on and contact stormwater run-off.
  - c. Non-contact storm water will be contained within on-site drainage courses and channeled into storm water retention ponds, where it will be contained.
- 28. Commission guidance requires storm water retention ponds to be designed with sufficient capacity to hold the predicted runoff from a 25-year/24-hour storm.
  - a. The storm water retention ponds at the proposed facility are designed with sufficient capacity to hold the predicted runoff from a 100-year/24-hour storm and maintain 2 feet of freeboard. The storm water retention ponds are also designed and will be operated with sufficient capacity to hold the predicted runoff from a 500-year/24hour storm without 2 feet of freeboard.
- 29. PWE will install riprap on the berms to at least two feet above the highest water level, thereby preventing stormwater runoff from adversely affecting the integrity of the berms.
- 30. PWE will maintain a minimum 100-foot buffer between disposal operations and wetland features/waters of the state. No storm water runoff from a 100-year storm, a 500-year storm or a dam breach will reach any disposal cell, receiving pit or collecting pit or come in contact with any waste in any disposal cell, receiving pit or collecting pit.
- 31. There will be seventeen (17) monitor wells on the Site, as shown in Appendix M, Figure 2, of the Draft Permit. Fifteen (15) of the monitor wells will be completed in the uppermost groundwater zone and will be isolated from any deeper groundwater zone. Pursuant to the settlement agreement with the City of Corpus Christi, two (2) additional "shallow" monitor wells will be completed at depths to monitor dry sands identified by some of the borings. These two monitor wells will be isolated from any deeper groundwater zone.

32. Each monitor well will be sampled at least quarterly for static water level, total depth, benzene, TPH, TDS, pH and Soluble Cation and Anions through post closure monitoring.
33. Post-closure monitoring will continue for at least 5 years after the facility is closed. The monitoring period will be extended thereafter until the Railroad Commission determines monitoring is no longer necessary.
34. Before any authorized waste can be accepted at the facility, the permittee must:
  - a. File financial security to cover the cost of closure and post-closure monitoring.
  - b. Record in McMullen County and file with Technical Permitting a restrictive covenant, executed by the landowner of the site where the facility will be located, stating that any soil necessary for closure can be used by the permittee or the RRC to close the facility.
  - c. Install and have groundwater monitor wells required by the permit approved by Technical Permitting.
  - d. Complete a Spill Prevention, Control and Countermeasure (SPCC) plan and make it available to RRC staff for review.
  - e. Complete a Stormwater Management Plan and make it available to RRC staff for review.
  - f. Pass an inspection by the Commission's District Office confirming that the facility has been constructed as represented in compliance with the permit.
  - g. Obtain any necessary air emission permits from the TCEQ.
35. If required, permittee must obtain a permit from EPA or TCEQ for any discharge of non-contact water from the facility. No discharge of contact water from the facility is authorized
36. After the facility has been closed, the permittee will be required to maintain financial security to cover the cost of post-closure monitoring requirements. The current cost estimate for post closure monitoring requirements is Three Hundred Fifty-Seven Thousand Dollars (\$357,000).
37. PWE will be required to update its closure cost estimate at least once every five years when the permit is renewed. Updates are also required when there is any significant change in the estimated closure cost.

38. No waste of oil, gas or geothermal resources will result from the proposed disposal operations.
39. The permit conditions contained with the Draft Permit provide for the safe disposal of non-hazardous oil and gas wastes.
40. The proposed waste management and disposal operations will not result in the pollution of surface or groundwater.

**AMENDED CONCLUSIONS OF LAW**

1. Resolution of the subject application is a matter committed to the jurisdiction of the Railroad Commission of Texas. Tex. Nat. Res. Code § 81.051
2. All notice requirements have been satisfied. 16 Tex. Admin. Code § 3.8.
3. Operations at the proposed facility will not result in the waste of oil, gas, or geothermal resources or the pollution of surface or subsurface water. 16 Tex. Admin. Code § 3.8 (d)(6)(A).

**RECOMMENDATION**

Based on the above findings of fact and conclusions of law, the Examiners recommend approving the application of Petro Waste Environmental, LP pursuant to Statewide Rule 8 for a permit to maintain and operate the commercial stationary treatment and disposal facility, in McMullen County, Texas.

Respectfully submitted,



Richard Eyster, P. G.  
Technical Examiner



Clayton J. Hoover  
Administrative Law Judge