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RAILROAD COMMISSION OF TEXAS

HEARINGS DIVISION

OIL AND GAS DOCKET NO. 04-0326725

**APPLICATION OF BLACKHORN ENVIRONMENTAL SERVICES, LLC (073151)
PURSUANT TO STATEWIDE RULE 8 FOR A COMMERCIAL PERMIT TO OPERATE
AN OIL AND GAS WASTE STATIONARY TREATMENT FACILITY, BLACKHORN
WASTE DISPOSAL FACILITY, JIM WELLS COUNTY, TEXAS**

PROPOSAL FOR DECISION

HEARD BY: Austin Gaskamp, Technical Examiner
Charles Zhang, Administrative Law Judge

WRITTEN BY: Austin Gaskamp, Technical Examiner
Charles Zhang, former Administrative Law Judge
Kristi M. Reeve, Administrative Law Judge

PROCEDURAL HISTORY:

Notice of Hearing Issued -	July 16, 2020
Prehearing Conference -	August 10, 2020
Hearing on the Merits -	September 10-11, 2020
Transcript Received -	October 15, 2020
Close of Record -	October 15, 2020
Proposal for Decision Issued -	February 8, 2021

APPEARANCES:

For Applicant, Blackhorn Environmental Services, LLC
Clay Nance, Counsel, *Rash Chapman*
Patricia Canales-Bell, Counsel, *Canales Simonson*
J.A. "Tony" Canales, Counsel, *Canales Simonson*
Jason "Cody" Bates, General Manager of Permitting,
Blackhorn Environmental Services, LLC
David Vogt, Professional Engineer, *HDR Engineering*
Harold Edward "Ed" von Dran, Jr., *Alpha Terra Engineering, Inc.*
Jerry Pogue

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For Protestants, Keith and Gail Green, and Jennifer Green

Bradford Klager, Counsel, *Hilliard Martinez Gonzales LLP*

Lance Brown, Assistant Chief, *Orange Grove Volunteer Fire Department*

Tristan Rieger, Inspector, *Texas Commission on Environmental Quality*

For Protestants, Tara Jones and Calvert Jones

Tara Jones and Calvert Jones, *pro se*

Other

Elizabeth Lieberknecht, Staff Attorney, *Texas Commission on Environmental Quality*

In representation of TCEQ's Executive Director's interest and to assert any privileges over Mr. Rieger's testimony, if required.

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I. Statement of the Case

Blackhorn Environmental Services, LLC (“Blackhorn” or “Applicant”) (Operator No. 073151), filed an application for renewal of its permit (“Renewal” or “Application”) pursuant to 16 Tex. Admin Code §3.8 (“Statewide Rule 8”) to operate a commercial separation, reclamation and disposal facility in Jim Wells County, Texas. The facility (“Facility”) receives, separates, treats, and disposes of non-hazardous oilfield waste. Solid waste is stored in an existing disposal cell (“Cell No. 2”). Blackhorn has future plans and designs to construct a similar cell (“Cell No. 1”) once the first is approaching capacity and covered. Waste liquids derived from the separation processes are pumped downhole at an on-site disposal well. The Application was assigned the following control numbers: the stationary treatment facility (“STF”) is designated by Commission staff as STF 059 and a permit to operate a reclamation plant (Form R-9) is assigned No. 04-1301. The Application includes nine individual pits, identified by Draft Permit Nos. P011946 A/B/C, P011947 A/B/C, P011948 and P011949, the latter two being permanent disposal cells. The Application also includes a collecting/drying pit identified by Draft Permit No. P012620. A Collecting/Contact Stormwater Pit (P012661) is also identified by the Application. The Application is protested by an adjacent landowner and nearby residents (collectively, “Protestants”). At Blackhorn's request, the matter was set for a hearing.

The Facility was originally permitted in 2014 after two days of evidentiary hearing. Since that time, the Facility was constructed and began operations in February 2019. The permit has a five-year renewal term. The 2014 permit was issued to Sable Environmental II (“Sable II”). In 2015, Sable Environmental II changed its name to Blackhorn Environmental Services, LLC. This name change triggered a second technical review by Commission Staff and a contact stormwater pond was added by request of staff.

The Technical Examiner and Administrative Law Judge (collectively “Examiners”) respectfully submit this Proposal for Decision (“PFD”) and recommend the Commission find that the Facility is protective of ground and surface water, and does not endanger oil, gas, or mineral resources. The Examiners recommend the Commission approve the Application.

II. Jurisdiction and Notice of Hearing¹

Sections 81.051 and 81.052 of the Texas Natural Resources Code provide the Commission with jurisdiction over all persons owning or engaged in drilling or operating oil or gas wells in Texas and the authority to adopt all necessary rules for governing and regulating persons and their operations under the jurisdiction of the Commission. Section 91.101 of the Texas Natural Resources Code provides the Commission with authority to issue orders to prevent pollution of surface water or subsurface water in the State of Texas.

¹ The hearing transcript in this case is referred to as “Tr. Vol. [volume no.] at [pages:lines].” Applicant’s exhibits are referred to as “Applicant Ex. [exhibit no(s)].” The Green Protestants’ exhibits are referred to as “Green Ex. [exhibit no(s)].” The Jones Protestants’ exhibits are referred to as “Jones Ex. [exhibit no(s)].”

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Notice of the Application was published in the *Alice Echo-News Journal*, a newspaper of general circulation in Jim Wells County, on September 25, 2019, and October 2, 2019. Notice of the Application was mailed to the surface owner of the facility tract and to the surface owners of all adjacent tracts on October 23, 2019.

On July 16, 2020, the Hearings Division of the Commission sent a Notice of Prehearing Conference for the Application via first-class mail setting a prehearing conference date of August 10, 2020.² The notice contained (1) a statement of the time, place and nature of the hearing; (2) a statement of the legal authority and jurisdiction under which the hearing is to be held; (3) a reference to the particular sections of the statutes and rules involved; and (4) a short and plain statement of the matters asserted.³ The prehearing conference was held on August 10, 2020, as noticed.

III. Prehearing Conference

On August 10, 2020, the prehearing conference was heard, as noticed, to consider, among other things, Blackhorn's Motion to Dismiss the Protests of Patrick Murray, Calvert Jones, Tara Jones, Justin Huber, and Esthela Radke. Also, on August 10, 2020, Justin Huber, Dana Huber, John Radke and Esthela Radke, filed a withdrawal of their protests.

Appearing at the prehearing conference were Blackhorn, Keith and Gail Green, and Jennifer Green (the "Greens" or "Green Protestants"), Tara Jones and Calvert Jones (the "Joneses" or "Jones Protestants") and Patrick Murray.

At the conclusion of the prehearing conference, it was announced on the record the hearing on the merits would take place on September 10-11, 2020.

IV. Interim Order

On September 8, 2020, an Order Denying Motion for Continuance, Granting Blackhorn Environmental Services, LLC's Motion to Dismiss in Part and Denying in Part ("Interim Order") was issued by the Hearings Division. The Interim Order denied the Greens' request to continue the hearing, granted the Applicant's request to dismiss the protest of Patrick Murray, and denied the Applicant's request to dismiss the protests of Tara and Calvert Jones.

No interim appeal was filed and the hearing on the merits convened on September 10, 2020.

² See Notice of Hearing issued July 16, 2020.

³ See Tex. Gov't Code §§ 2001.051, 052; 16 Tex. Admin. Code §§ 1.45, 1.48.

V. Applicable Legal Authority

Blackhorn has filed an Application for renewal of its commercial waste disposal facility under Statewide Rule 8. The following are the pertinent Commission rule provisions.

Statewide Rule 8(b) states:

(b) No pollution. No person conducting activities subject to regulation by the commission may cause or allow pollution of surface or subsurface water in the state.

Statewide Rule 8(d)(1) states:

(d) Pollution control.

(1) Prohibited disposal methods. Except for those disposal methods authorized for certain wastes by paragraph (3) of this subsection, subsection (e) of this section, or § 3.98 of this title (relating to Standards for Management of Hazardous Oil and Gas Waste), or disposal methods required to be permitted pursuant to § 3.9 of this title (relating to Disposal Wells) (Rule 9) or § 3.46 of this title (relating to Fluid Injection into Productive Reservoirs) (Rule 46), no person may dispose of any oil and gas wastes by any method without obtaining a permit to dispose of such wastes. The disposal methods prohibited by this paragraph include, but are not limited to, the unpermitted discharge of oil field brines, geothermal resource waters, or other mineralized waters, or drilling fluids into any watercourse or drainageway, including any drainage ditch, dry creek, flowing creek, river, or any other body of surface water.

These provisions prohibit pollution of surface or subsurface water and prohibit disposal of oil or gas wastes without first obtaining a permit to do so.

Statewide Rule 8(d)(6(A)) provides direction as to the requirements to obtain a permit and what requirements may be contained in the permit. It states:

(6) Permits.

(A) 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,

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gas, or geothermal resources or the pollution of surface or subsurface water. A permit to maintain or use any unlined brine mining pit or any unlined pit, other than an emergency saltwater storage pit, for storage or disposal of oil field brines, geothermal resource waters, or other mineralized waters may only be issued if the commission determines that the applicant has conclusively shown that use of the pit cannot cause pollution of surrounding productive agricultural land nor pollution of surface or subsurface water, either because there is no surface or subsurface water in the area of the pit, or because the surface or subsurface water in the area of the pit would be physically isolated by naturally occurring impervious barriers from any oil and gas wastes which might escape or migrate from the pit. Permits issued pursuant to this paragraph will contain conditions reasonably necessary to prevent the waste of oil, gas, or geothermal resources and the pollution of surface and subsurface waters. A permit to maintain or use a pit will state the conditions under which the pit may be operated, including the conditions under which the permittee shall be required to dewater, backfill, and compact the pit. Any permits issued pursuant to this paragraph may contain requirements concerning the design and construction of pits and disposal facilities, including requirements relating to pit construction materials, dike design, liner material, liner thickness, procedures for installing liners, schedules for inspecting and/or replacing liners, overflow warning devices, leak detection devices, and fences. However, a permit to maintain or use any lined brine mining pit or any lined pit for storage or disposal of oil field brines, geothermal resource waters, or other mineralized waters will contain requirements relating to liner material, liner thickness, procedures for installing liners, and schedules for inspecting and/or replacing liners.

VI. Motion to Exclude Evidence

On September 9, 2020, Blackhorn filed a motion to exclude the documentary evidence of the Jones Protestants for failure to timely respond to Applicant's discovery requests.⁴ The ruling on the motion was carried to the Proposal for Decision. At the hearing, Blackhorn was granted a standing objection to all of the exhibits presented by the Jones Protestants.⁵ The motion to exclude the exhibits of the Jones Protestants is denied. The appropriate weight of the evidence is assigned to the exhibits.

VII. Discussion of Evidence

Blackhorn filed the Application for a renewal of its permit to operate a commercial oil and gas waste stationary treatment facility to dispose of oil and gas waste on September 12, 2019. Blackhorn maintains the Facility is, and continues to be, protective of groundwater and the Application should be granted. Blackhorn contends that issues raised by the Protestants regarding odor and property value are outside the jurisdiction

⁴ See Motion to Exclude filed September 9, 2020.

⁵ Jones Ex. 1-5.

of the Commission. The Protestants state the Facility poses a pollution threat, reduces property values and enjoyment, endangers ground and surface water and produces foul odors which can only be attributed to hydrogen sulfide (“H₂S”) or some other violation of Blackhorn’s permit and therefore the Application should be denied.

A. Summary of Applicant’s Evidence and Position

In 2014, three Commissioners entered and unanimously adopted a Proposal for Decision (“PFD”) and Final Order containing Findings of Fact and Conclusions of Law approving the Facility.⁶ The PFD (Oil and Gas No. Docket 04-0286186) determined the Facility to be protective of surface and groundwater and fully compliant with Rule 8.⁷ This application was granted to Sable Environmental II. Sable Environmental II subsequently changed its organizational name to Blackhorn Environmental Services, LLC.

Blackhorn claims that the Facility meets and exceeds the Commission’s standards. When Blackhorn amended the permit to reflect the organization’s name change, a second technical evaluation was undertaken by Commission staff. This evaluation mandated that a contact stormwater pit be added to accommodate a 25-year, 24-hour rain event for the drying pad and disposal cell.⁸ Applicant’s Exhibit No. 3 is the latest revision of the permit, under which Blackhorn is currently operating. Blackhorn began accepting waste on February 5, 2019. Mr. Cody Bates, Blackhorn’s Manager of Permitting, testified that the Facility has complied with all Railroad Commission regulations and operates according to its permit conditions. The date of the most recent inspection was on August 26, 2020, and no violations were found.⁹ Blackhorn maintains that the Application should be approved.

1. Environmental Setting

The Facility sits on a relatively flat topographic area, a former caliche mining pit.¹⁰ During the permitting process, four soil borings were done and found to contain clay with a permeability of less than 1x10⁻⁷ cm/sec permeability for at least 20 feet below ground, making this an ideal location due to natural containment.¹¹ In addition, Mr. Bates testified that the flat topography of the surface location is advantageous in not allowing stormwater in or out of the facility.¹²

David Christopher Vogt has been a licensed professional engineer in the State of Texas for 15 years.¹³ Mr. Vogt stated that his focus over the past 12 years has been waste management, during which he designed approximately 10 or 11 landfills or surface impoundments. Mr. Vogt is employed by HDR Engineering and managed engineers,

⁶ Applicant Exhibit 1 and 2.

⁷ Tr. Vol. 1 at 30: 18-22.

⁸ Tr. Vol. 1 at 38: 16-21.

⁹ Tr. Vol. 1 at 46: 16-22.

¹⁰ Tr. Vol. 1 at 31: 1-8.

¹¹ Tr. Vol. 1 at 31-32: 13-25, 1-3.

¹² Tr. Vol. 1 at 32: 4-12.

¹³ Tr. Vol. 2 at 10:14-10:21.

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geologists, and geoscientists as a project manager working on waste facility design applications.¹⁴ Mr. Vogt testified that he was involved in the permitting involving Blackhorn's predecessor, Sable Environmental II. Mr. Vogt further stated that his professional engineer seal is on all the documents involving Sable's 2014 permit, except for the geotechnical report conducted by Rook Geotechnical and the wetland survey.¹⁵

Mr. Vogt stated that Rook Geotechnical took 20-foot bore samples from four areas at the site. The samples were tested for the liquid limit, plastic limit, and plasticity index. The samples were also tested for permeability and a No. 200 sieve was used to determine the amount of granular material versus clay. Mr. Vogt maintained that in his opinion the samples gave an adequate representation of the site characteristics.¹⁶ The hydraulic gradient slopes southeast towards the coast. Mr. Bates stated the Jones residence is to the northwest of the Facility and the Greens live toward the southeast of the Facility.¹⁷ Mr. Vogt continued, stating that the bore results showed fat clay.¹⁸ Mr. Vogt opined that although the borings only went down to 20 feet, there was no reason to believe that the hard fat clay stopped at a 20-foot depth. Mr. Vogt testified that in his opinion the hard fat clay was located throughout the Blackhorn facility property.¹⁹ Mr. Vogt asserted that hard fat clay has a very low permeability, and it provides a stable subgrade on which to build a facility.

Mr. Vogt stated that the minimum criteria for permeability for a compacted clay liner by Railroad Commission and by TCEQ standards is 1×10^{-7} cm/sec or less of permeability. The permeability was in the 10^{-8} magnitude in three of the bore samples and 1.06×10^{-7} cm/sec in one of the samples.²⁰ Mr. Vogt further stated that there was no groundwater found in any of the bore samples.²¹ The approximate depth of the top of the Goliad formation is approximately 300 to 400 feet below the facility. The Goliad outcrop, which is the recharge zone for the Goliad formation, is approximately 6.5 miles from the facility.²² This is the aquifer that most, if not all, of the local water wells source fresh water. Mr. Vogt testified the Facility is not in an aquifer recharge area. Mr. Vogt stated that per the 2014 wetland evaluation, there was no wetlands found at the Facility site.²³ The Facility property is not located within a floodplain.²⁴

The Agua Dulce Creek is around 2,200 feet from the nearest corner of the Facility. It is approximately 4,000 feet from the drying pad. The creek is typically dry.

¹⁴ Tr. Vol. 2 at 11:4-18:7; Applicant Ex. 20.

¹⁵ Tr. Vol. 2 at 18:13-19:5.

¹⁶ Tr. Vol. 2 at 25:5-27:8; Applicant Ex. 22.

¹⁷ Tr. Vol. 1 at 33-34: 20-25, 1-6.

¹⁸ Tr. Vol. 2 at 27:16-27:24; Applicant Ex. 22.

¹⁹ Tr. Vol. 2 at 28:6-28:17; Applicant Ex. 22.

²⁰ Tr. Vol. 2 at 27:16-27:24; 29-11-30:7; Applicant Ex. 22.

²¹ Tr. Vol. 2 at 30:8-30:17; Applicant Ex. 22.

²² Tr. Vol. 2 at 21:15-25:4; Applicant Ex. 21.

²³ Tr. Vol. 2 at 20:12-20:21.

²⁴ Tr. Vol. 2 at 21:8-21:14.

2. Facility Design and Operation

The Facility receives, separates, reclaims, stores, treats, and disposes of non-hazardous oilfield waste. Mr. Bates testified that no stormwater, contact or non-contact ever crosses the perimeter of the engineered facility.²⁵ Any rainwater that would potentially interact with waste is deemed as contact stormwater and must be handled as waste itself. Contact and non-contact stormwater never mingle.²⁶ The Commission inspected the construction efforts and deemed there were no deficiencies, and the Facility was operational on February 5, 2019.²⁷ The five-year term of the original permit expired in November of 2019.²⁸ Blackhorn's Exhibit 4 details 25 inspections since the initial inspection on February 5, 2019. Blackhorn maintains that it has never been cited for any alleged violation by the Commission.²⁹ Blackhorn estimates a five percent utilization of the capacity in the first constructed disposal cell, Cell No. 2.³⁰ A second landfill cell, Cell No. 1, will mirror the first but cannot be constructed until financial security for closure is pledged.³¹ The following sections outline characteristics of the Facility's design and operation:

a. Disposal Cells

Solid waste, once properly dehydrated, are buried in disposal Cell No. 2. The cell has the following engineered lining, listed from bottom to top:

- 20 feet of hard fat natural clay (minimum, based on geotechnical investigation);
- 2 feet of scarified and recompacted clay;
- Geotextile;
- 60 mil high-density polyethylene ("HDPE") liner;
- Geonet leak detection layer, with a sump and monitoring riser;
- 60 mil HDPE liner;
- Geonet leachate collection layer, with a sump and collection system;
- Geotextile; and

²⁵ Tr. Vol. 1 at 40: 5-8.

²⁶ Tr. Vol. 1 at 39: 23-25.

²⁷ Tr. Vol. 1 at 42: 9-17

²⁸ Tr. Vol. 1 at 42: 21-25.

²⁹ Tr. Vol. 1 at 46: 12-22; Applicant Ex. 4.

³⁰ Tr. Vol. 1 at 47: 6-12.

³¹ Tr. Vol. 1 at 47: 15-19.

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- 12 inches of protective cover for the liner system.³²

Mr. Vogt testified that per the engineered drawings, from top to bottom, there is 12 inches of protective cover, underlain with geotextile and then geonet. The geotextile prevents material from infiltrating the geonet. The geonet acts as a leachate collection site. The leachate traverses a slope to a centralized sump where a submersible pump extracts the leachate from the site. Under the geonet is a 60-mil HDPE. The 60-mil HDPE is a standard material used in landfills that acts as the primary boundary to keep liquid from infiltrating the liner and into the subsoil. Beneath the HDPE liner is another geonet which acts as a leak detection system. The liquid from the leak detection system travels to a separate sump where it is collected and removed with another submersible pump. Beneath the second geonet is a second 60-mil HDPE liner. Beneath the second HDPE liner is geotextile. Beneath the second geotextile is scarified and recompacted subgrade material comprised of the 20-foot or more of the in situ hard fat clay.³³

Mr. Vogt testified the U.S. EPA determined that an action leakage rate exceeding 1,000 gallons per acre per day through a liner is actionable. If the leakage rate exceeds the actionable limits, then the holes must be repaired. Mr. Vogt determined the facility has 427,346 square feet of area, which translates to 10.04 acres. Mr. Vogt stated that using the EPA standards he calculated the facility could have leakage of 7 gallons per minute without exceeding the action leakage rate. Using that rate and the transmissivity of the geonet, Mr. Vogt further calculated that the design of the system had sufficient capacity to transfer the liquid in the leak detection system.³⁴ The leak detection system is metered.³⁵

One foot of fill material is required to be placed on top of the liner prior to waste disposal or any equipment from being moved on top of the liner. This is a layer of protection to prevent breaches or punctures. Mr. Vogt specified that overlapping portions of HDPE liner are fuse welded to create one continuous liner. The welds are tested with an air compressor by introducing 30 pounds of pressure. The weld is considered to have failed the test if there is more than 2 pounds of pressure loss over three minutes. The weld tests at the facility passed with either zero pressure loss or one pound of pressure loss. The tests were performed for the primary and secondary HDPE liners.³⁶

Mr. Vogt further described that before the HDPE liners were welded, the fusion machines were tested by fusing a sample three-to-five-foot section. The sections were tested for peel values, which is when a machine attempts to tear apart the liner in peeling motion. The sections were also tested for shear values, which is when the horizontal integrity is tested by attempting to pull apart the two welded liners.³⁷ Mr. Vogt concluded the material used in the HDPE liner, the geonet, and the geotextiles are all industry

³² Applicant Ex. 23.

³³ Tr. Vol. 2 at 31:23-36:7; Applicant Ex. 23.

³⁴ Tr. Vol. 2 at 42:2-43:19; Applicant Ex. 24.

³⁵ Tr. Vol. 2 at 43:20-44:4.

³⁶ Tr. Vol. 2 at 50:24-55:4; Applicant Ex. 25.

³⁷ Tr. Vol. 2 at 55:6-59:4; Applicant Ex. 26.

standard.³⁸ Mr. Vogt testified this is the same type of liner “that is installed at municipal solid waste facilities, at hazardous waste facilities, at coal combustion residual facilities, at industrial waste facilities.”³⁹

b. Contact Stormwater Pond

Mr. Vogt explained that as part of the permit amendment process, Blackhorn was asked to install a contact stormwater pond. The floor of the pond is one acre. The sides are at a three-to-one slope. The pond has two feet of recompacted clay and a synthetic liner sitting above the in situ hard fat clay. The pond is built from an elevation of 234.5 to 244.5 feet, or 10-feet of depth. The pond can hold 10-acre feet of water at 8 feet of depth. The entire capacity of the pond is 13-acre feet of water. Mr. Vogt assumed there are approximately 12 acres of area that could potentially have contact water resulting from a storm event. The 25-year 24-hour storm event is approximately 8 inches of rainfall. Mr. Vogt calculated that 8 inches of rainfall over 12 acres would create approximately 8-acre feet of water. Mr. Vogt further explained that a 100-year 24-hour storm event is approximately 11-inches of rain which would require a storage capacity of 12 acre-feet.⁴⁰

The contact stormwater pond, or leachate collection pond, is underlined by a synthetic liner, two feet of clay and the same minimum of 20 feet of in situ fat clay that underlies the entire facility. Due to its single liner and absence of leak-detection system, the contact stormwater pond is required to be emptied and inspected by a Commission inspector annually to check for leaks or punctures. No leak was found during the annual inspection of the contact stormwater pond.

c. Disposal Well

The Facility has an on-site disposal well permitted to dispose of 20,000 barrels per day. This well is cemented through the Goliad formation. The top of the disposal interval is 2,400 feet. Blackhorn was permitted to drill a second disposal well, if and when it determines it needs additional capacity or redundancy to handle waste liquids or contact-stormwater. Blackhorn has not drilled this well and has determined it does not need it at this time. No free-standing contact-water may exist on the disposal cell. Without this well, contact water and leachate would be shipped off-site for disposal. The well has two inline pumps, on automatic switches, capable of pumping 10,000 bpd in their current configuration. The injection pressure is approximately 600 pounds per square inch (“psi”). The leachate collection sumps cannot contain contact water for more than 72 hours, and this fluid is promptly pumped downhole.

d. Waste Types and Disposal Procedures

There are three types of waste that are accepted at the facility: RCRA exempt oil and gas waste, RCRA non-exempt oil and gas waste, and waste associated with oil and

³⁸ Tr. Vol. 2 at 60:17-62:20; Applicant Ex. 27, 28 and 29.

³⁹ Tr. Vol. 2 at 74: 7-10.

⁴⁰ Tr. Vol. 2 at 44:15-49:9.

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gas facilities and reclamation plants, as long as the waste does not contain recoverable hydrocarbons. Only oil and gas waste under the jurisdiction of the Commission may be accepted at the facility.

Mr. Bates detailed the process of receiving loads of waste:⁴¹

1. The inbound waste haulers check-in at the office.
2. The manifest is reviewed by Blackhorn staff.
3. Pertinent information is entered into the ICS computer system.
4. Every load is checked for naturally occurring radioactive material (“NORM”).
5. The liquids are sent to tankage for separation.
6. Solids go to the drying pad until they pass EPA paint filter test.
7. Liquids are pumped downhole.
8. Solids are deposited into the disposal cell.
9. Trucks are sent to the wash pad to clean tires and undercarriage; all wash liquids and removed debris are handled as waste.
10. Trucks stop at the office to check-out with the ICS computer system.
11. Trucks are sent to the vibratory system to remove any additional waste.
12. Trucks exit the Facility.

On cross-examination, Mr. Bates testified that for every load the Facility has received, the hauler had an approved waste hauler permit and that no waste unauthorized by the permit has been accepted. According to Mr. Bates, the Facility has refused hundreds of loads due to non-conformity with its permit.⁴²

e. Groundwater Monitoring wells.

Three groundwater monitoring wells are drilled on the Facility. During the permitting process, the Commission required monitoring wells if groundwater was encountered within 100 feet of surface. During drilling, under inspection by the Commission’s Corpus Christi District Office, water was encountered at 95 feet. The static water depth of the wells typically run approximately 60 feet. Blackhorn is mandated to submit quarterly reports on the sampled water quality. Blackhorn has submitted all required reports during operation. Mr. Bates testified that the quarterly results are all consistent with the baseline results obtained in January 2019, one month before the facility began accepting waste.⁴³

The 2020 draft permit issued by Mr. Adam Bowerman from the Commission’s Environmental Permits and Support Section of the Technical Permitting Group includes

⁴¹ Tr. Vol. 1 at 66-68: 9-25, 1-25, 1-5.

⁴² Tr. Vol 1 at 160: 8.

⁴³ Tr. Vol. 2 at 132: 1-16.

a note that the 2014 permit requirement to have four groundwater monitoring wells was changed to reflect the as-built schematics of the Facility.⁴⁴

f. Contingency Planning

Harold Edward von Dran, Jr. is a registered professional environmental engineer with Alpha Terra Engineering. Mr. von Dran worked with Mr. Bates and Sable II in 2014 to establish the initial parameters for the Facility. Mr. von Dran returned earlier in 2020 to conduct refresher training of the entire staff. Mr. von Dran provided spill plan training and stormwater pollution prevention plan training.⁴⁵

Mr. von Dran stated that Blackhorn prepared a spill control countermeasure plan and a stormwater pollution prevention plan in accordance with TCEQ, EPA, and Commission rules. The plans deal with specifics of how to manage stormwater and spills at the site. Additionally, there is a notification protocol in the event of an on-site spill. There has not been any spill at the Blackhorn facility.⁴⁶ Mr. von Dran does annual refresher training for the Blackhorn staff. Blackhorn's Exhibit 17 outlines its Spill Prevention Plan mandated by federal statutory requirements. Blackhorn's Exhibit 18 outlines its stormwater, pollution prevention plan. Blackhorn's employees have been trained on both plans. Mr. von Dran clarified that a reportable spill is 210 gallons. Mr. von Dran continued, that as the environmental engineer who consults on spill clean-up, he expects Blackhorn would call either himself or an alternate from the call-list in the event of a reportable spill.⁴⁷

In response to cross-examination by Mr. Calvert Jones, regarding notification of neighbors, Mr. Von Dran responded:

If upon arrival the police or the fire department have been summoned the police and fire department take precedence. They become the on-scene commander and they would make that determination if public notification were required or needed. Because we are not a large facility there is no requirement for us to have any sort of public address or notification of the public. That falls to the responsibility of the emergency first responders.⁴⁸

Employees wear H₂S monitoring devices when working in the facility. There is no operation or waste that would require Blackhorn to have a certification of compliance of H₂S, Commission Form H-9.

g. Facility Closure

Blackhorn has a restricted covenant to the Commission setting aside fill material, that could be used to cover the disposal cell, in case of abandonment. Upon closure, the disposal cells will be covered with a synthetic liner, six inches of covering soil and

⁴⁴ Applicant Ex. No. 12.

⁴⁵ Tr. Vol. 2 at 216:25-219:1.

⁴⁶ Tr. Vol. 2 at 219:11-222:25.

⁴⁷ Tr. Vol. 2 at 223:12-230:14.

⁴⁸ Tr. Vol. 2 at 230: 6-14.

reseeded with grass to prevent erosion. The covering liner will be joined with the underlying liner to completely encapsulate the waste. Blackhorn has an active P-5. Blackhorn estimates the costs to close the facility to be \$1,750,340. Commission staff has approved the closure cost estimate.

3. Odor Complaints

On August 25, 2020, an odor complaint was filed with the Railroad Commission.⁴⁹ An inspector was dispatched on August 26, 2020, and no violation was found.⁵⁰ Tristan Rieger, Air Inspector for the TCEQ, inspected the facility on August 25, 2020. Mr. Bates walked him around the facility on the upwind and downwind side of the drying pad while Mr. Rieger sampled the air for volatile organic compounds (“VOC’s”) and H₂S with his MultiRAE meter. While sampling on County Road 308, a smell of asphalt was detected from a recently asphalted road. No detectable air contaminants were metered with the MultiRAE.⁵¹ Exhibit 19 details the visit and the results found by Mr. Rieger. Due to the number of complaints, Blackhorn keeps records of all inspections by regulatory inspectors and emergency responders.⁵² Mr. Bates testified that there have been 100 odor complaints filed with the TCEQ against the Facility.⁵³ Although Blackhorn’s employees wear H₂S monitors, none of them have ever been triggered.⁵⁴ The Facility’s personnel are trained in H₂S response and multiple muster points are designated according to wind direction.⁵⁵

B. Summary of the Green Protestants’ Position

The Green family are adjacent landowners to the Facility. The Greens’ property shares a fence line with the Facility. The Greens’ residence is to the southeast of the Facility. The Greens have several livestock tanks and potable water wells, as well as several residences located under a half-mile from the Facility’s border.⁵⁶ The Greens did not testify at the hearing; however, at their request, two individuals who have conducted inspections or safety operations on their property did.

The Greens first called Lance Brown, President and CEO of Chemco Technology Services, LLC, as well as the Assistant Chief for the Orange Grove Volunteer Fire Department. Mr. Brown was the responding volunteer firefighter dispatched to the Greens’ property on April 23, 2020, responding to a call about a strong H₂S smell.⁵⁷

Mr. Brown testified that he did smell a distinct H₂S smell. He was advised there were children and an adult female in the house, possibly in need of evacuation. Mr. Brown

⁴⁹ Tr. Vol. 1 at 46: 25, 1-5.

⁵⁰ Tr. Vol 1 at 46: 23-25, 1-5.

⁵¹ Tr. Vol. 1 at 89-91: 5-25, 1-25, 1-25.

⁵² Tr. Vol. 1 at 97: 10-15.

⁵³ Tr. Vol. 1 at 97: 20-24.

⁵⁴ Tr. Vol. 1 at 132: 16-19.

⁵⁵ Tr. Vol 1 at 163, 19-25.

⁵⁶ Green Protestant Ex. 1.

⁵⁷ Tr. Vol. 1 at 224, 1-25.

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instructed firefighters to wear an airpack and use an air sniffer to detect gas. They deemed it safe, based on the readings, and evacuated the residents to the road to be evaluated by EMS.⁵⁸ Mr. Brown testified that the sniffers are not meant for low concentrations of H₂S, but rather for natural gas in concentrations that would be found inside a house or confined area with a gas leak.⁵⁹ According to Mr. Brown, the sniffer can detect H₂S, but only in confined concentrations. Through his experience on production facilities, Mr. Brown is personally familiar with the odor of H₂S. He testified that he could smell H₂S on his April 2020 visit, although his meter did not detect it. No toxic gasses were detected by his meter.⁶⁰ Mr. Brown had responded on an earlier call in January 2020 to a brush fire started from a burn pit on the Greens' property; therefore, he had some familiarity with the Greens' property.⁶¹

Next, the Greens called Tristan Rieger, an air investigator for the Texas Commission on Environmental Quality ("TCEQ") in the Region 14 Corpus Christi office. Mr. Rieger's duties include handling complaints for particulate matter or odors and involves regulatory compliance.⁶² Mr. Rieger testified that TCEQ handles air-related odor complaints.⁶³

Mr. Rieger stated that he has visited the Blackhorn facility approximately four or five times. Mr. Rieger indicated one visit was on August 25, 2020, and another visit was on September 4, 2020.⁶⁴ On August 25, 2020, Mr. Rieger smelled an odor when he was at the berm of the disposal pit.⁶⁵ Mr. Rieger testified that on that date he also visited the Greens' residence and had to leave the area due to the fumes, which caused his stomach to feel upset.⁶⁶ On September 4, 2020, Mr. Rieger did not go on-site, but smelled the odor of a burnt oil, sour petroleum smell on County Road 3081 that runs directly west of the Facility.⁶⁷ Mr. Rieger stated that the visits on August 25, 2020, and September 4, 2020, were due to general odor complaints. Mr. Rieger had a MultiRAE with him and it did not detect H₂S. Mr. Rieger indicated the MultiRAE is able to detect one part per million of H₂S.⁶⁸ The Greens submitted a citizen odor log from the TCEQ. This evidence is given little weight, as the Railroad Commission does not have jurisdiction over odor complaints.

C. Summary of the Jones Protestants' Position

Calvert Jones testified that his home is 0.6 miles from the Blackhorn facility. Water from the Blackhorn facility traverses the neighboring Waggoner property, then through the Jones' property and into the Agua Dulce Creek, which is approximately 5,280 feet from the fence line of the Blackhorn site. Mr. Jones stated that generally there is water

⁵⁸ Tr. Vol. 1 at 228-229: 8-25, 1-5.

⁵⁹ Tr. Vol. 1 at 229: 13-18.

⁶⁰ Tr. Vol. 1 at 232: 15-20.

⁶¹ Tr. Vol. 1 at 232: 21-25.

⁶² Tr. Vol. 2 at 143:6-144:5.

⁶³ Tr. Vol. 2 at 152:5-152:10.

⁶⁴ Tr. Vol. 2 at 147:3-147:14.

⁶⁵ Tr. Vol. 2 at 155:7-155:15.

⁶⁶ Tr. Vol. 2 at 158:10-159:24.

⁶⁷ Tr. Vol. 2 at 155:15-156:7.

⁶⁸ Tr. Vol. 2 at 161:22-162:9.

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runoff from the Blackhorn facility onto their property during a heavy rain event. The runoff feeds the Jones stock tanks that the cattle use for drinking water.⁶⁹

Mr. Jones stated concerns that the Joneses live in a hurricane-prone area, 45 miles from the coast, which could present significant rain falls.⁷⁰ Mr. Jones continued that he is concerned about his surface water. The Joneses have three earthen tanks, two of which receive water from the direction of the Blackhorn facility as runoff towards the Agua Dulce Creek. The Joneses also have four subsurface water wells, three of which are used as potable water for the household and for cattle. Several of the water wells do not have cement casing to the surface.⁷¹ Mr. Jones testified that one of his water wells used for potable water and livestock water is 3,547 feet to the northwest of the Facility and another is 3,554 feet to the northwest. The well located 3,547 feet to the northwest is an old well and does not have cement to surface. Another well that is used for drinking water and home use is located 2,950 feet from the fence line. The fourth well is 3,987 feet in the west-northwest direction, and also is not cemented.

Mr. Jones testified that he has experience in the oilfield and knows what oil-based cuttings smell like. Mr. Jones stated he questions what type of waste the Facility is receiving based on the odors from the Facility. Furthermore, Mr. Jones and his family have become lightheaded and queasy from the plume from the Facility.⁷² Mr. Jones further stated that his family is unable to enjoy their property and must endure strong odors from the Facility.⁷³ Mr. Jones testified that around the end of 2019 he noticed a change in odors from the Facility away from oil-based drilling cuttings to a stronger unidentified odor.⁷⁴

Tara Jones, wife of Calvert Jones, testified that there are times when they are forced inside due to the odor from the Facility. Mrs. Jones continued that they have concerns about rainfall events because water travels from the Facility towards their property. Mrs. Jones further stated she had concerns of poisonous gas releases.⁷⁵

The Joneses were also concerned about odors and degradation of air quality associated with the operation of the Facility. They believe all of these factors will contribute to their declining property values, and negatively impact their own use and enjoyment of their property.

VIII. Examiners' Analysis

A permit to maintain or use a pit for storage or disposal of oil field fluids or oil and gas waste may only be issued if the Commission determines that the maintenance or use of, and disposal in, such pit will not result in the waste of oil, gas, or geothermal resources

⁶⁹ Tr. Vol. 2 at 168:7-175:8.

⁷⁰ Tr. Vol. 2 at 177:16-179:9.

⁷¹ Tr. Vol. 2 at 179:10-181:7.

⁷² Tr. Vol. 2 at 182:12-184:3.

⁷³ Tr. Vol. 2 at 184:8-187:5.

⁷⁴ Tr. Vol. 2 at 208: 17-24.

⁷⁵ Tr. Vol. 2 at 187:10-188:15.

or the pollution of surface or subsurface waters. Blackhorn has demonstrated, and the Examiners find that the Facility meets these Statewide Rule 8 requirements. The Examiners recommend Blackhorn's Application be approved.

A. Waste of Oil, Gas or Geothermal Resources

The operation of the Facility will not result in the waste of oil, gas, or geothermal resources. Waste treatment and disposal is a necessary component of energy development. The Facility includes provisions to recover usable hydrocarbons from the various incoming waste streams.

The Examiners find the Facility as designed will not cause waste of oil, gas, or geothermal resources.

B. Pollution of Surface Waters

The construction and operation of the Facility as designed will not result in the pollution of surface waters. The Facility meets the design requirements of the Commission to prevent the runoff of waste materials and contact stormwater.

The Application indicates the disposal pits will be constructed in such a manner to "fill" the quarry excavation. The liner systems will provide, effectively, a basin, and the perimeter berms surrounding the waste management units will prevent the surface water runoff from entering the waste containment structures. The Facility is not in a floodplain and no wetlands are located on the property. Upon closure, the disposal pit surfaces will be above grade, with drainage away from the units. Precipitation which falls within the confines of the disposal cells while the units are in operation is contact water; permit conditions require such contact stormwater to be disposed of as waste, and not discharged to surface drainage. Blackhorn disposes of this water in an on-site disposal well. Thus, the Examiners conclude the Facility as designed properly segregates contact from non-contact stormwater, and that management of these stormwater regimes in accordance with Commission rules and permit conditions reflected in the design will prevent the pollution of surface waters.

C. Pollution of Subsurface Waters

The natural environmental features and the engineered liner and waste management systems meet Commission requirements and prevent the pollution of subsurface waters. Blackhorn has conducted a geotechnical investigation of the proposed site that included drilling soil borings, collecting soil samples, and analyzing soil samples for physical parameters. Based on its study, Blackhorn determined the area is underlain by at least 20 feet of clay, meeting the 1×10^{-7} cm/sec permit requirement, suitable as undisturbed and re-compacted natural liners. Further, the shallowest expression of groundwater was observed at a depth of about 95 feet below ground surface. Groundwater monitoring quarterly reports have been collected, analyzed, and submitted

to the Commission. The facility is not in an aquifer recharge zone, and the top of the aquifer is 300-400 feet below surface.

In addition to the natural environmental features, the facility design includes a combination of natural and artificial liners for all of the waste management areas, and the disposal pits include systems for leachate collection and leak detection.

The Examiners conclude the Facility as designed will prevent the pollution of subsurface waters.

D. Other Issues Raised

The concerns about odors and air quality are not within the jurisdiction of the Railroad Commission. The Texas Commission on Environmental Quality is the appropriate regulatory agency overseeing such matters. There is no evidence that the facility has received waste outside of its permit requirements. There is no evidence that the facility is receiving any waste with measurable H₂S content. There is no evidence of H₂S readings at the Facility, let alone at neighboring properties. The Examiners cannot find evidence of any H₂S source that would cause an uncontrolled release of H₂S. The Facility is permitted to take waste tangentially related to H₂S, such as amine filter media and skim oil, potentially with H₂S vapors. Given that there is not a direct source of H₂S it is very unlikely that the waste would emit H₂S gas in concentrations harmful to neighboring properties. In the face of neighbors' numerous complaints, the Examiners do not doubt that the Facility is producing odors affecting neighbors, possibly from exhaust of heavy equipment, degradation of waste and biological action associated with such breakdown.

IX. Recommendation, Proposed Findings of Fact and Proposed Conclusions of Law

The Examiners recommend the Commission approve the Application and adopt the following findings of fact and conclusions of law.

Findings of Fact

1. Blackhorn Environmental Services, LLC (Operator No. 073151), pursuant to 16 Tex. Admin Code § 3.8, applied for a permit renewal to operate an oil and gas waste stationary treatment facility in Jim Wells County, Texas.
2. Blackhorn gave notice of the application by mailing or delivering a copy of the application to the owner of record of the surface tract on which the facility is located and to each owner of record of tracts adjacent to the subject tract.
3. Notice of the application was published on September 25, 2019, and October 2, 2019, in the *Alice Echo-News Journal*, a newspaper of general circulation for Jim Wells County.

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4. Notice of this application and hearing was provided at least ten (10) days prior to the date of the hearing.
5. On August 10, 2020, the prehearing conference was heard, as noticed, to consider, among other things, Blackhorn's Motion to Dismiss the Protests of Patrick Murray, Calvert Jones, Tara Jones, Justin Huber, and Esthela Radke. Also, on August 10, 2020, Justin Huber, Dana Huber, John Radke and Esthela Radke, filed a withdrawal of their protests.
6. At the prehearing conference, Blackhorn, Keith and Gail Green, Jennifer Green, Tara Jones, Calvert Jones, and Patrick Murray appeared.
7. On September 8, 2020, an order was issued dismissing the protest of Patrick Murray for lack of standing.
8. The facility receives, separates, treats, and disposes of non-hazardous oilfield waste. Recoverable hydrocarbons are reclaimed. Waste liquids derived from the separation processes are pumped downhole into an on-site disposal well.
9. The facility includes a separation area with six separation pits (two parallel batteries of pits, with each battery containing three pits in series), access pad, working area (including truck ramps and wash bays), drying pad, and two disposal cells
 - a. The separation pits, access pad, and working area will include recompact clay liners and reinforced concrete.
 - b. The drying pad include a two-foot compacted clay and synthetic liner.
 - c. The disposal cells include natural and synthetic liners, leachate collection systems, and leak detection systems.
10. The facility tract is underlain by 20 feet of clay, and shallow groundwater was observed at a depth of 95 feet.
11. The disposal cells are located in a former caliche quarry, which was located on an originally topographic high; there is no off-site drainage onto the disposal area.
12. Contact and non-contact water will be segregated and managed separately; contact water will be evaporated or disposed of in an on-site disposal well.
13. Commission staff has approved the closure cost estimate of \$1,750,340.
14. Operation of the proposed facility will not result in the waste of oil, gas, or geothermal resources.
15. Operation of the facility, as designed, will not result in the pollution of surface waters.

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16. Operation of the proposed facility as designed will not result in the pollution of subsurface waters.
17. No evidence of non-permitted waste was found.
18. No sources of hydrogen sulfide or measurable concentrations of hydrogen sulfide were found.
19. Matters regarding odors and air quality are not subject to the Commission's jurisdiction.


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. Proper notice of hearing was timely issued to persons entitled to notice. See, e.g., Tex. Gov't Code §§ 2001.051, .052; 16 Tex. Admin. Code §§ 1.41, 1.42, 1.45, 3.8(d)(6)(C), (D).
3. The Interim Order dated September 8, 2020, granting the Applicant's request to dismiss Patrick Murray is just and reasonable. See 16 Tex. Admin. Code §1.107.
4. The proposed waste treatment, storage, reclamation, and disposal operations will not result in waste of oil, gas, or geothermal resources or the pollution of surface or subsurface waters Statewide Rule 8. See, e.g., Tex. Admin. Code § 3.8.
5. The application for renewal of Blackhorn's permit meets the requirements of Statewide Rule 8. See, e.g., Tex. Admin. Code § 3.8.

Recommendations

The Examiners recommend the application of Blackhorn Environmental Services, LLC for renewal of its commercial waste treatment, storage, reclamation, and disposal facility in Jim Wells County, Texas, be **APPROVED** and associated permits **ISSUED**.

Respectfully submitted,

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Austin Gaskamp
Technical Examiner

DocuSigned by:

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Kristi M. Reeve
Administrative Law Judge