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HEARINGS SECTION

RAILROAD COMMISSION OF TEXAS

OFFICE OF GENERAL COUNSEL

OIL & GAS DOCKET NO. 04-0272338

THE APPLICATION OF SCHMIDT OILFIELD SERVICES VENTURE PURSUANT TO 16 TAC §3.8 FOR A PERMIT TO OPERATE A COMMERCIAL LANDTREATMENT FACILITY, DUVAL COUNTY LANDTREATMENT FACILITY, APPLICATION CONTROL NO. 0322, DUVAL COUNTY, TEXAS

HEARD BY: Brian Fancher, P.G. - Technical Examiner

James Doherty - Legal Examiner

REVIEWED BY: Laura Miles-Valdez - Legal Examiner

PROCEDURAL HISTORY OF CASE:

Application filed:

Request for hearing:

Notice of Hearing:

Hearing Held:

Final Transcript Received:

Written Closings Received:

PFD Issued:

September 02, 2011

August 22, 2011

September 16, 2011

November 29 & December 14, 15, & 16, 2011

January 09, 2012 February 06, 2012

September 17, 2012

APPEARANCES:

REPRESENTING:

APPLICANT:

Clay Nance

Jay Stewart

Walker Schmidt

Larry E. Carlisle, P.E.

Bill McCurley, P.E.

Curt Champlin, P.G.

Chester Lambert

Shelton Posey

Roland Baker

Schmidt Oil Field Services Venture

PROTESTANTS:

David Jackson Duval County Property Owner, LLC, Doug

and Stacey Going, Ricky Martin, J. David Anderson, Killam Ranch Properties, LTD,

Viggo Gruy, and Lito Guajardo

Keith Wheeler, P.G., C.P.G. Duval County Property Owners, LLC, Doug

Going, J. David Anderson, and Ricky Martin

Craig Kissock, P.G. Killam Ranch Properties, LTD, Viggo Gruy,

and Lito Guajardo

David Kitner Killam Ranch Properties, LTD

Bob Dickerson Chaparral Ranch

William Runge Duval County Landowners, LLC

Tim Keller

John & Elizabeth Kickapoo Ranch

Leatherwood

Carlos Garcia Freer Water Control & Improvement District

Robert Shrum Las Lomas Ranch

David Cooney Railroad Commission of Texas, Env. Svs.

Michael Sims

Meredith Greager

Marion & Lucille Williams Self

George Pratt Self

EXAMINERS' REPORT AND PROPOSAL FOR DECISION

STATEMENT OF THE CASE

Pursuant to 16 TAC §3.8, Schmidt Oilfield Services Venture ("Schmidt") requests authority to operate the Duval County Landtreatment Facility ("DCLF") in Duval County, Texas. As proposed, the subject application would allow for the acceptance of oil and fresh water-based drill cuttings generated through oil and gas exploration.

As noticed, Schmidt described that the proposed facility will be located on 103.94 acres apportioned from a 307.835-acre parent tract in the J. Poitevent Survey No. 151, Abstract No. 391. At the hearing, counsel on behalf of the protestants brought to light that the DCLF's proposed location was misidentified in the notice of hearing, correspondence between parties, and the notice by publication. The correct location of the proposed facility is in the N. Gussett Survey, Abstract No. 1122, Section No. 154 and is owned by Basic Energy Services (see attachment A).

Protestants to the subject application include multiple parties comprised of adjacent surface owners and surface owners located in the vicinity surrounding the location of the proposed facility.

The subject application was administratively denied by the Oil and Gas Division's Technical Permitting Section on June 09, 2011, and July 22, 2011. By memorandum dated August 22, 2011, the Technical Permitting Section indicated the subject application was denied due to the potential pollution of surface and groundwater, as a consequence of the proposed facility.

The examiners take Official Notice of the letter mailed by Mr. Arnold Ott, Director of the Commission's Corpus Christi Oil and Gas District Office, to Animus Holdings, LLC ("Animus") on January 31, 2012, as requested by counsel on behalf of the protestant. In the letter, Mr. Ott informs Animus that the oil and gas waste disposal at its unpermitted and unlined earthen pits, located south of and adjacent to Killam Ranch Property in Duval County, is a violation of 16 TAC §3.8(d)(1). However, the examiners believe the unpermitted oil and gas waste disposal site operated by Animus Holdings, LLC is unrelated to this application and therefore is not relevant to Schmidt's application to operate its proposed DCLF.

PROTESTANTS STANDING

At the hearing numerous Protestants appeared in protest of Schmidt's application. Appearing in protest were: Mr. Carlos Garcia, representing the Freer Water Control and Improvement District, Mr. Lito Guajardo, Mr. Viggo Gruy, Mr. Doug & Stacy Going, Ms. Marion Willaims, Ms. Lucile Williams, Mr. J. David Anderson, Mr. Ricky Martin, representing the Regale de Cielo Ranch, Mr. David Kitner, representing the Killiam Ranch, Mr. Robert Shrum, representing Las Lomas Ranch, Mr. John and Elizabeth Letherwood, representing the Kickapoo Ranch, Mr. Bob Dickerson, owner of the Chaparral Ranch, Mr. George Pratt, representing the Z4 Ranch, and Mr. William Runge, Mr. Tim Keller, and Mr. Jack Carither, Jr., designated as representing the Duval County Property Owners, LLC. Tr. 1, p. 11-12. Testimony presented at the hearing demonstrated that Duval County Property Owners, LLC (DCPO)'s interest was also represented by (at a minimum)¹ DCPO members Going, Anderson, Martin, and Gruy appearing in protest of the Schmidt application. Tr. 1, p. 17, p. 20.

¹ The record is unclear regarding the full number of DCPO members appearing at the hearing— Killiam Ranch may be a member of the DCPO (Tr. 1, p.17), as well as Mr. Guadajro (Tr. 3, p.6). Based on counsel for the Protestants' Closing Argument, Mr. Gruy, Mr. Guadjaro, and Killiam Ranch are members of the DCPO. See Protestants' Closing Argument, p.2.

Applicant Schmidt challenged the standing of all Protestants and contends that "none of the Protestants demonstrated actual or imminent injury in fact that is concrete and particularized other than as a member of the general public." Schmidt also contends DCPO lacks standing in this proceeding because none of its members have standing in their own right as of the commencement of the hearing.

Counsel for Protestants DCPO, Guajardo, Gruy, Going, Anderson, Martin, and Kitner, conversely contends each of his clients sufficiently demonstrated their "affected person" status and therefore, has standing to appear in the protest of the Schmidt application.³

In determining whether a protestant has standing, the Commission looks to Commission rules and applicable law. 16 Tex. Admin. Code §3.8(a) confers standing upon an "affected person," defined as a "person who, as a result of the activity sought to be permitted, has suffered or may suffer actual injury or economic damage other than as a member of the general public." Further, an association may have standing as an "affected person," so long as evidence is presented that "at least one or more [of] its individual members, would suffer actual injury or economic damage other than as a member of the general public, so that its members would otherwise have standing to participate in their own right, and that the interests which [the association] [seeks] to protect [are] germane to the association's purpose." See Oil & Gas Docket No. 8A-0262915, Application of Southwest Disposal Service, Inc. at p. 2-3, citing Texas Ass'n of Bus. v. Texas Air Control Br., 852 S. W.2d 440, 447-49 (Tex. 1993).

Upon review of the record and arguments of the parties, it is the examiners' ruling that Protestants Going, Gruy, Guajardo, and DCPO, presented sufficient evidence to demonstrate their standing to protest the Schmidt application under 16 Tex. Admin. Code §3.8. The examiners' rule that: Mr. Carlos Garcia, representing the Freer Water Control and Improvement District, Ms. Marion Willaims, Ms. Lucile Williams, Mr. J. David Anderson, Mr. Ricky Martin, representing the Regale de Cielo Ranch, Mr. Kitner, representing the Killiam Ranch, Mr. Robert Shrum, representing Las Lomas Ranch, Mr. John and Elizabeth Leatherwood, representing the Kickapoo Ranch, Mr. Bob Dickerson, owner of the Chaparral Ranch, Mr. George Pratt, representing the Z4 Ranch, and in their independent capacity — Mr. William Runge, Mr. Tim Keller, and Mr. Jack Carither, Jr., failed to demonstrate evidence of their standing, or "affected person" status sufficient to confer standing, as a Protestant to the Schmidt application; however, the examiners will consider that these parties have observer status, and they will be carried on the service list for receipt of this proposal for decision and future orders of the Commission.

² Schmidt's Closing argument, at 23.

³ See Protestant's Closing Argument, at 7-10.

⁴ See 16 Tex. Admin. Code §3.8(d)(6)(D).

⁵ 16 Tex. Admin. Code §3.8(a)(22).

Standing of Protestants Gruy, Guajardo, Going, and DCPO

It is the examiners' ruling Protestants Gruy, Guajardo, Going, and DCPO presented sufficient evidence demonstrating their status as an "affected person."

Mr. Gruy is an offset land owner, who owns property immediately north of the proposed facility which is 10-12 feet away from the facility, and has water wells that may be effected by Schmidt's proposed activities. Tr. 1, p. 41-42. Testimony presented at the hearing demonstrated that the northern half of the 100-acre proposed facility bordering Mr. Gruy's property has neither been tested nor sampled to demonstrate that the proposed facility would insure against potential pollution or contamination into Gruy water wells. Tr. 3, p.193-94. Schmidt concedes that Gruy is an offset owner required to be given notice under 16 Tex. Admin. Code §3.8, and therefore, by Schmidt's own concession, Gruy, as an offset owner, has standing.

Mr. Guajardo, is a nearby land owner who owns property immediately to the south of the proposed facility, and testifies as to concerns regarding his undocumented water wells which may be affected by pollution and/or contamination occurring as a result of activities at the proposed facility. Tr. 1, p. 40-41. Additionally, Mr. Guajardo's water wells were completed in the same aquifer identified as the "second aquifer" on the Schmidt property. Tr. 3, p. 145, p. 193. Again, Schmidt concedes Guajardo is an offset owner required to be given notice under 16 Tex. Admin. Code §3.8.8 Mr. Guajardo has standing.

Mr. Going owns non-adjacent property 0.8 miles north of the proposed facility, was listed by Schmidt as an adjacent property owner in both of Schmidt's administrative application filings, and has water wells on his property which may be affected by the Schmidt facility activities. Tr. 3, p. 152-53, 158-59, see also Commission File. While Schmidt contends because Mr. Going's property is up-gradient of the proposed facility, he lacks standing because he is not an affected person. Schmidt Closing Argument, p. 27. Under the rule an affected person is one who... has suffered or may suffer actual injury or economic damage other than as a member of the general public. Mr. Wheeler's testimony demonstrated the possibility of pollution of Going's water well as a result of the undocumented soil in the northern portion of the facility and the high permeable layer of gravel layer which may extend into Mr. Going's property through Gruy's property. Tr. 3, p. 193-94. Mr. Going need only show the potential for actual injury or economic damages and Schmidt's lack of sampling and testing in the northern portion of the proposed facility presented no

⁶ As a preliminary matter, Schmidt concedes Gruy and Guajardo are offset owners required to be given notice under 16 Tex. Admin. Code §3.8; yet, asserts because they did not demonstrate a "concrete and particularized actual injury or economic damage" they failed to meet the standing requirement as an affected person. See Schmidt's Closing Argument, p. 28. 16 Tex. Admin. Code §3.8 confers standing on any offset owner and does not require further examination to confer standing. Schmidt's affected persons analysis and devised "concrete and particularized" standard are inapplicable.

⁷ See Schmidt's Closing Argument, p. 24 and 28.

⁸ Schmidt's Closing Argument, p. 28.

⁹ 16 Tex. Admin. Code §3.8(a)(22).

contravening evidence to rebut Mr. Wheeler's testimony. As such, the examiners' rule Going is an affected person who may suffer actual injury or economic damage as a result of the proposed activities, and therefore, has standing.

Duval County Property Owners

An association has standing as an "affected person," so long as evidence is presented that:

- 1.) at least one or more of its individual members,
- would suffer actual injury or economic damage other than as a member of the general public, so that its members would otherwise have standing to participate in their own right, and
- 3.) the interests which the association seeks to protect are germane to the association's purpose." ¹⁰

Protestants Gruy and Going both testified they were members of the DCPO. Tr.3, p. 137, 162-163. This testimony was unchallenged by Schmidt during the hearing or his closing argument, and as such, we will take it as undisputed. Because each of these individuals are members of the DCPO, one or all of them having standing as an affected person will be sufficient to meet the first two requirements of associational standing. (See discussion of Gruy's and Going's standing above.)

Turning to the third criteria – the interests which the association seeks to protect are germane to the association's purpose – Mr. Going provided testimony directly regarding the DCPO's purpose and stated the purpose of the DCPO was to "fight this land permit." Tr. 3, p. 163. This testimony clearly demonstrates the DCPO's interest sought to be protected are in fact one and the same as the association's purpose. The examiners' rule DCPO has sufficiently demonstrated that it meets the necessary criteria for establishing its standing as an affected entity.

DISCUSSION OF THE EVIDENCE

Applicant's Evidence

Schmidt's Administrative Permit Applications

Schmidt seeks to operate the DCLF, located in west-central Duval County approximately 18.6 miles south of Freer, Texas and 14.81 miles west of Benavides, Texas. The initial application to operate the subject facility was received by the Railroad Commission on February 11, 2011. By letter dated June 9, 2011, Railroad Commission staff informed Schmidt that its initial application, along with subsequently filed information pertaining to its application, was unable to be approved administratively. In its correspondence, Commission staff specified the subject facility would potentially allow for the pollution of surface and shallow groundwater. Moreover, staff informed Schmidt that additional information would need to be submitted in order to render the application administratively complete.

¹⁰ See Oil & Gas Docket No. 8A-026915, Application of Southwest Disposal Service, Inc. at p. 2-3, citing Texas Ass'n of Bus. v. Texas Air Control Br., 852 S.W.2d 440, 443-45 (Tex. 1993).

By letter and attachment dated June 24, 2011, Schmidt submitted its revised application to operate the DCLF. Schmidt conceded modifications were included in the revised application to address Railroad Commission concerns, change selected operational characteristics of the facility, and correct typographical and syntax errors found in the initial application.

At the hearing, Schmidt requested to further amend its application for the proposed facility by incorporating fewer "cells" with new area dimensions, implementing a groundwater monitoring program, amending its waste application methods and loading rates, incorporating supplemental soil amendments or microbes to the waste, and changing the testing and documenting of incoming wastes (Transcript, Vol. I, P. 164, L. 5-8).

As evidenced at the hearing, Schmidt currently retains an active Commission P-5 that designates Schmidt Oilfield Services Venture as a joint venture with no financial assurance on file with the agency.

The Facility

As ultimately proposed, the DCLF would be situated in an abandoned gravel mine pit approximately twenty feet below the surrounding land surface. The facility includes a windrow-staging area¹¹, five individual pits (defined by the applicant as "cells"), a storm water control program, a groundwater monitoring program, the incorporation of fertilizer in its waste treatment handling, and a gate house near the facility vehicle entrance and exit.

The facility's ingress/egress thoroughfare abuts State Highway 16 at the south end of the 103.94 acre area. Adjacent to the facility entrance/exit is the gate house located on the east side of the facility's road. Beyond that, the windrow-staging area is positioned west of the gate house and is situated next to the first "cell". Beginning with "cell" number one and ending with "cell" number five, the row of "cells" border the western boundary of the proposed facility location and traverse from the southwest corner to the northwest corner of the abandoned gravel pit.

"Cell" Construction

In its initial and second filed applications, Schmidt sought eight individual "cells" at its proposed facility. At the hearing, Schmidt amended its application to instead include only five "cells", collectively comprised of approximately 15 acres. Schmidt submitted a cross-sectional schematic (see attachment B) that profiles the construction of each "cell" from west to east.

In an effort to explain how it proposes to construct the row of "cells", the applicant testified it will initially excavate the top eight to ten feet comprising the current location of the "cells" and stockpile the excavated material ("treatment medium") so that it may be added with oil and gas waste later deposited into the "cells". Once the initial excavation is complete, Schmidt plans to dig into the layer it defined as "silty-clay to clay", located directly beneath the eight to ten feet of loosely

¹¹ Windrows are individual rows of spent drill cuttings accepted at the DCLF.

consolidated material. This excavated material will be stockpiled separately then reapplied in sixinch lifts, with each lift meeting compaction standards of one times ten to the minus seven centimeters per second to create a recompacted natural liner. Thereafter, four feet of treatment medium will be deposited on top of the recompacted, natural liner (Transcript, Vol. I. P. 141, L. 1-11).

Surface and Ground Water

At the hearing, Schmidt testified it determined the average precipitation and evaporation rates to be 23.98 inches per year and average annual evaporation rate of 63.68 inches per year, respectively. Furthermore, the 25 year / 24 hour maximum rainfall event would produce approximately eight inches of rainfall at its proposed location. Beyond that, the 100 year / 24 hour rainfall event would produce ten and half inches of rain at its proposed location.

Schmidt concluded that approximately 270 acres of land adjacent to the proposed site location drains into the abandoned gravel pit at the northern lease boundary line. Schmidt testified that at the time the initial permit application was filed in February 2011, rainfall runoff had collected at the northeast portion of the abandoned gravel pit forming an intermittent surface water pond approximately 35 acres in area and located within 150 feet of the proposed location of the "cells" (Transcript, Vol. III, P. 24, L. 18-22). Schmidt further testified that at the time its amended application was filed on June 24, 2011, the 35-acre pond was no longer present due to evaporation (Transcript, Vol I, P. 183, L. 18-25 & P. 184, L. 1). Schmidt testified it did not consider percolation as a mechanism for the disappearance of the surface water.

Schmidt submitted evidence that indicated the location of surrounding water wells within a one mile radius from the boundaries of its proposed facility. In total, Schmidt concluded five water wells surround the proposed facility and are completed at depths ranging from 350 feet to 635 feet below ground surface with a static water level measured from depths ranging 132 feet to 240 feet below ground surface. The nearest water well, the Viggo Gruy No. 1, is drilled to total depth of 395 feet, screened from 373 feet to 393 feet, and placed approximately 1,500 feet east of the proposed facility.

Schmidt testified that five monitoring wells and three soil borings were drilled at the location of the proposed facility. The nomenclature and depth of each monitoring well and soil boring were described as follows¹²:

¹² To clarify the surface locations with respect to the soil descriptions of all monitoring wells and soil borings, the examiners chose to use the testimony provided by Mr. Curt Champlin. (Transcript, Vol I, P. 244, L. 19-25, P. 245, L. 1-10, & P. 249, L. 1-10).

Well No.	Static Water Level	Total Depth	Soil Boring (SB)	Total Depth
MW-1	4 feet (bgs) ¹³	13 feet	SB-1	20 feet
MW-2	8 feet (bgs)	15 feet	SB-2	15 feet
MW-3	75 feet (bgs)	100 feet	SB-3	10 feet
MW-4	51 feet (bgs)	101 feet		
MW-5	37 feet (bgs)	65 feet		

In its application dated June 24, 2011, Schmidt described the presence of groundwater in MW Nos. 1, 2, and 3, located within the confines of its proposed facility (Schmidt Exhibit No. 5, P. 10-11). Schmidt reported that each well encountered groundwater at approximately 4 feet, 8 feet, and 75 feet below the ground surface, respectively. Beyond that, Schmidt claimed that after visiting the DCLF's proposed site in early June 2011, the water level observed in MW-3 indicated this well was connected to the water accumulation¹⁴ in the abandoned gravel pit.

As part of its application, Schmidt testified it drilled SBs-1, 2, and 3, along with MWs-1 through 5, to assist in the determination of groundwater flow direction beneath its proposed facility. Schmidt testified it determined the direction of groundwater flow to be in an east-southeast direction (Transcript, Vol. I, P. 256, L. 7-10).

Recompacted Liner and Dike System

Schmidt testified it will not incorporate synthetic liners below the windrow-staging area nor below the row of "cells" used to stow and treat all accepted waste at the proposed facility. Instead, Schmidt testified that the windrow staging area, and each "cell's" liner and its associated dikes, will be constructed of engineered, recompacted soil that maintains a permeability of one times ten to the minus seven centimeters per second.

Schmidt submitted soil boring logs that describe the types of strata it encountered while drilling each monitoring well and soil boring within the DCLF's 103.94-acre tract. Schmidt testified that based upon the data ascertained through its soil descriptions, a naturally existing "silty-clay to clay" layer is present and continuous throughout the subsurface underlying the "cells" within the proposed facility (Transcript, Vol. I, P. 267, L. 9-25 and P. 268, L. 1).

Schmidt testified that permeability tests were performed on samples from what it described as "silty-clay to clay" material. The initial permeability test¹⁶ was made of a mixture of soil samples

¹³ bgs - Below Ground Surface.

¹⁴ The intermittent, 35-acre water pond observed at the surface.

¹⁵ Permeability is defined as the capacity of a pourous rock, sediment, or soil for transmitting a fluid.

¹⁶The test method utilized for permeability testing was the ASTM (American Society for Testing and Materials) 5084-00.

collected through the entire lengths of MW-4 and MW-5. The lab test, performed by MLA Labs, Inc on November 03, 2011, reported the composite sample was recompacted and demonstrated a permeability of 1.91 times ten to the minus seven centimeters per second under optimum characteristics. The second permeability test, which consisted of a core taken from depths 39 feet to 41 feet in MW-5, reported a permeability of 5.21 times ten to the minus six centimeters per second (Transcript, Vol I, P. 130, L. 1-25).

The third and fourth permeability tests, based on samples which Schmidt testified was collected by excavating an additional pit to approximately nine to ten feet below ground surface at the proposed location of "cell" number two, reported a permeability of 3.71 and 3.5 times ten to the minus seven centimeters per second, respectively (Transcript, Vol II. P. 162, L. 14-25 and P. 167, L. 13-20).

The final permeability test, performed December 09, 2011, included soil samples that remained on the ground from its previous site visit, located near its proposed "cell" number two. During this particular test, the lab incorporated bentonite at a rate of five percent of the sample's dry weight. The lab result reported the sample exhibited a permeability of 2.45 times ten to the minus eight centimeters per second (Transcript, Vol. II, P. 174, L. 2-12 & P. 179 and 180, L. 24-25 and 1-10). No chain of custody or documentation supporting the sampling procedures was submitted on behalf of Schmidt.

Daily Operations

At the hearing, Schmidt testified it seeks to accept and treat spent drill cuttings from other operators, which have been contaminated with drill mud (Transcript, Vol. I., P. 62, L. 16-19). In short, Schmidt testified the proposed facility will allow for the acceptance of solely dry waste consisting of oil-based and freshwater-based drill cuttings.

Schmidt submitted evidence that depicts a generalized process of the daily operations for its proposed facility. To begin, a company that wishes to dispose of drill cuttings will submit a site specific waste profile that includes Total Petroleum Hydrocarbons (TPH), chlorides, and pH (Schmidt Exh. No. 5, P. 50). If the waste profile is approved by Schmidt, a truck with spent drill cuttings will arrive at the DCLF entrance gate and the facility guard will perform an inspection of the truck's manifest and load to determine if the proper criteria for waste acceptance has been met. If the load and manifest are approved, the waste will then be off-loaded onto the windrow-staging area and the spent drill cuttings will be segregated into individual windrows. Next, a front-end loader will transfer the waste from the staging area to a designated "cell" where it will be deposited into a layer four inches thick. Thereafter, a tractor will mix the waste into the top six to twelve inches of surface soil and repeat this process every two to three days until the waste exhibits the acceptable soil standards listed in the permit conditions. Once a soil test indicates that treatment criteria have been achieved, an additional four inch layer of waste will be placed on top of the previously deposited layer, in a cyclic process of waste application, mixing, and soil testing.

Additional Permit Amendments

As mentioned earlier, Schmidt testified it wished to amend its second filed application dated June 24, 2011 to incorporate several additional changes to its application. At the hearing, Schmidt testified it seeks to use fertilizer in its landtreatment operations. As a supplement, Schmidt testified the fertilizer it wishes to embody, PAR4 5-5-5 Starter Fertilzer, Manufactured by Bridgewell Resources, LLC, is a non-toxic fertilizer that will stimulate naturally occurring bacteria in the soil mixed with applied drill cuttings (Transcript, Vol. I, P. 154, L. 1-19). Representatives of Schmidt opined that ultimately the waste will become remediated once Total Petroleum Hydrocarbons ("TPH"), chlorides, and RCRA metals have been managed through the treatment process (Transcript, Vol. I, P. 30, L. 22-25).

Secondly, Schmidt proposed to implement a storm water control program in an effort to mitigate storm water collection in its proposed operations. As presented, the channel begins in the southern half of the proposed facility near the northwest junction of "cells" 1 and 2. From there, the channel traverses from southwest to northwest along the western boundary of its proposed row of "cells". Next, the channel adjoins a diversion dike, made of compacted native soils, and trends along the north lease boundary line of its proposed facility. Finally, the channel and dike system mirror the northeast and western boundaries of the abandoned gravel pit ultimately ending at a culvert running perpendicular to State Highway 16 near the facility's gate house (See Attachment C).

Thirdly, Schmidt seeks to implement a ground water monitoring program by utilizing the five existing monitoring wells and incorporating nine additional monitoring wells at its proposed facility. Schmidt testified its proposed monitoring well program includes supplementing four shallow wells completed from surface to twenty feet below ground surface and placed predominately along the east side of its proposed row of "cells". The remaining five new wells will be completed from twenty feet to one hundred feet below ground surface and situated throughout the southern half of its proposed 103.94 acre facility.

Lastly, in its amended application filing dated June 24, 2011, Schmidt concluded the estimated cost to close its proposed DCLF is \$59,936. The closure plan and cost estimate is comprised of soil and groundwater sampling against RCRA-8 Metals (Arsenic "As", Barium "Ba", Cadmium "Cd", Chromium "Cr", Lead "Pb", Mercury "Hg", Selenium "Se", & Silver "Ag"). Schmidt testified that once the facility is unable to further accept waste and target remediation levels are achieved, the closure of the facility will be initiated. Closure of the facility begins with each "cell's" associated dike being pushed into the "cell". Next, the area would be contoured and grass seed would be spread to cover the area. All groundwater monitoring wells would stay active for at least one year beyond the facility closure to perform ground water monitoring and determine if any adverse impact has occurred (Schmidt's Exhibit. No. 5, Appendix I, P. 1-3 & Transcript, Vol. I, P. 155, L. 10-25 & P. 156, L. 1-4).

Schmidt testified its estimated closing cost for the DCLF, as presented at the hearing, is approximately \$78,000. However, Schmidt offered no further testimony or physical evidence that explains the reasoning of its estimated financial increase for closure cost.

Protestants' Position

Environmental Permits & Support, Technical Permitting

On June 9, 2011, Environmental Permits & Support informed Schmidt that its initial application could not be approved administratively. In its correspondence, Commission staff specified the DCLF would potentially allow for the pollution of surface and shallow groundwater in the area. Moreover, staff informed Schmidt that additional information would need to be submitted to make the application administratively complete.

On July 22, 2011, after review of the supplemental information Schmidt submitted, Environmental Permits & Support mailed a letter to Schmidt that stated that the Commission staff's position on the denial of the initial application remained unchanged.

On August 22, 2011, the Environmental Permits & Support forwarded a memorandum to the Commission's Administrative Compliance group that indicated Schmidt requested a hearing on the subject application. In its memorandum, Environmental Permits & Support concluded that the subject application was unsuitable for the operation of a landtreatment facility because groundwater occurred as shallow as four feet below ground surface within the proposed landtreatment "cells". Beyond that, staff research indicated that gravel-mining operations were prevalent in the area and that an intermittent pond approximately 32 acres in size exists within 150 feet of the proposed land treatment "cells". Moreover, staff noted that the abandoned gravel pit is known to collect large amounts of water, hydraulically connected to the shallow groundwater observed at four feet, and that the intermittent pond is down gradient from the proposed landtreatment "cells".

At the hearing, staff testified the basis for its denial of Schmidt's administrative applications were due to the applicant's failure to clarify the source of water constituting the 32 acre intermittent pond and shallow subsurface water (Transcript, Vol III, P. 44, L. 2-10). Further, staff set out its concerns that Schmidt's proposed facility is placed in an abandoned gravel pit, that gravel is highly permeable, and that surface and very shallow subsurface water abut the proposed "cell" locations (Transcript, Vol. III, P. 51, L. 6-14). Put differently, staff testified Schmidt did not provide any information related to the lateral extent of the shallow subsurface water or delineate if the shallow subsurface water is in hydraulic communication with areas outside the proposed facility (Transcript, Vol. III, P. 61, L. 5-23).

Staff stated concerns as to the geologic delineation below the DCLF, as determined by representatives on behalf of Schmidt. In its testimony, staff referred to Schmidt exhibit number 13 (lithologic cross-section A-A' and B-B') with respect to Schmidt exhibit number 24 (soil boring descriptions for all monitoring wells and soil borings). Staff testified it observed that in each cross section only one data point reaches a depth of 100 feet below ground surface; however, each cross-section profile indicates that the entire area comprising the cross-section is made of "silty-clay" down to 100 feet below ground surface. In addition, staff testified the sections designated as "silty-clay" on its cross-sectional maps is inconsistent with the soil descriptions provided for each artificial penetration in its soil description well logs. Staff testified that the inconsistent representation of the

subsurface comprising the location of Schmidt's proposed facility is of particular concern as Schmidt's proposed natural liner and dike system will be using material from the layer it defined as "silty-clay" (Transcript, Vol. III, P. 72, L. 9-25).

In support of its position, Staff submitted a copy of Chapter IV of the Commission's Surface Waste Management Manual which states Commission policy and guidelines related to disposal or storage of oil and gas waste in a pit. Within Chapter IV, titled "Compacted Soil Liners" staff noted the following:

"...To be adequate, a compacted soil liner should have a thickness of two feet or more and a hydraulic conductivity of one times ten to the minus seven centimeters per second or less. Compaction to 95% standard Proctor at a soil moisture content of 2 to 3% wet of optimum is appropriate..."

As such, according to Commission policy and guidelines, staff testified that Schmidt's inconsistent representation of the subsurface comprising the DCLF's location may fail to meet Commission standards. Furthermore, staff testified Schmidt failed to demonstrate that the proposed facility would not result in the pollution of surface or subsurface water, as required by Commission policy and rules.

Mr. Viggo Gruy

Mr. Gruy is an adjacent property owner of land located to the north and west of Schmidt's proposed facility location. Mr. Gruy testified that his property contains more than one water well and that they are utilized by persons and livestock. Mr. Gruy protested the subject application due to his concern that Schmidt's proposed operations will result in contamination of surface and groundwater.

Mr. Gruy testified that at certain intervals in the past, he has constructed a number of earthen tanks on his property. Further, Mr. Gruy testified that as long as water is flowing into the tank, the tank holds water without the water level increasing; however, if the water source is removed the tank will go dry (Transcript, Vol. III, P. 134, L. 20-23; P. 135, L. 1-2; P. 136, L. 1-7; P. 143, L. 21-25; & P. 144, L. 1-5).

Mr. Rogelio "Lito" Guajardo

Mr. Guajardo is an adjacent property owner of land located to the south of Schmidt's proposed facility location. Specifically, Mr. Guajardo's property is contiguous to the 307.835-acre property owned by Basic Energy Services but not continuous to the 103.94-acre leased area containingSchmidt's proposed facility (Transcript, Vol. III, P. 151, L. 13-19). The approximate distance separating Mr. Guajardo's property from Schmidt's proposed facility is three tenths of a mile.

Mr. Guajardo testified he has three water wells on his property that supply water to the home on his property, livestock, and wildlife (Transcript, Vol. III, P. 147, L. 9-15). In support of his

position, the witness on behalf of Mr. Guajardo testified that his water wells have water levels that are at similar subsurface elevations as the water levels in the second aquifer beneath Schmidt's proposed site location (Transcript, Vol. III, P. 212, L. 6-12). Mr Guajardo testified that not only is his property used to support livestock and wildlife, he resides at the property for approximately fifty to sixty percent of the time (Transcript, Vol. III, P. 147, L. 21-25 & P. 148, L. 1-2). Mr. Guajardo testified he protested the subject application due to its proximity to his adjacent property and the potential for contamination to his water wells.

Mr. Doug Going

Mr. Going testified he protested the subject application due to the potential odor and possible groundwater contamination it may impose upon his property. Mr. Going is a non-contiguous, adjacent landowner of 700 acres placed north of Mr. Viggo Gruy's property and approximately eighttenths of a mile to the north of the DCLF's proposed location. Mr. Going testified his property is used strictly for recreational activities that include leisure and wildlife management. Mr. Going testified his property includes one water well that has been used in the past to recharge an earthen tank.

Mr. Going testified he is a member of the Duval County Property Owner, L.L.C., an entity formed primarily as an opposition to Schmidt's subject application (Transcript, Vol. III, P. 163, L. 3-9). At the hearing, Mr. Going testified to an exhibit that was admitted as the Duval County Property Owners Exhibit No. 12¹⁷. Mr. Going testified the exhibit is a print-out taken from the Texas Commission on Environmental Quality's (TCEQ) website that addresses a facility known as the Ballard Pits. The Ballard Pits site was a former sand and gravel pit converted for storage and disposal of waste material comprised of oilfield drilling mud and refinery waste. In March 2003, a site assessment was conducted by the Railroad Commission of Texas that resulted in the conclusion that the pits posed an unacceptable risk to human health.

Mr. Going testified the Ballard Pits site was an abandoned gravel and sand pit, similar to Schmidt's subject application, that was utilized for the disposal of oil field drilling mud and refinery waste that ultimately resulted in groundwater contamination (Transcript, Vol. III, P. 160, L.1-18).

Duval County Property Owners, L.L.C.

In support of its protest, DCPO performed a study in regard to Schmidt's proposed facility that included a review of Railroad Commission records and Schmidt's initial and revised application submittal. DCPO testified it did not find Schmidt's application to meet the burden of proof demonstrating that surface and subsurface water resources in the area would be protected (Transcript,

¹⁷ For purposes of maintaining a clear record of exhibits submitted by the Duval County Property Owners, LLC ("DCPO"), the original exhibits from DCPO marked as Cross-Exhibit 1 through Cross-Exhibit 11 were later requested to be labeled as DCPO Exhibits 1-11. The examiners granted this request (Transcript, Vol. III, P. 173, L. 7-15).

At the hearing, DCPO submitted a conceptual cross-section that traverses from west to east across the southern half of the 103.94-acre tract and incorporates data from Schmidt's MW-4, MW-2, SB-3, and MW-3. Based on the cross-section, DCPO's witness testified the layer below the shallow subsurface water, defined by Schmidt as "silty-clay to clay", is made of silt and sand with the absence of clay. DCPO testified this determination is based on information that was filed in Schmidt's application or data that the applicant provided (Transcript, Vol. III, P. 181, L. 13-19). In regards to the characterization of the layer as silt, rather than clay as claimed, DCPO testified it observed inconsistencies between the field descriptions and the applicant's exhibits submitted in support of the subject application. DCPO testified that Schmidt did not incorporate ASTM standards that outline field procedures used to distinguish silts from clays (Testimony, Vol. III, P. 204, L. 3-14).

DCPO testified that in its application, Schmidt identified two aquifers below the location of its proposed facility. As presented, the upper aquifer occurs at approximately four feet below ground surface. The second aquifer begins at a range of 40 feet to 74 feet below ground surface (Transcript, Vol. III, P. 185, L. 14-19).

Based on its study of the information submitted by Schmidt, DCPO testified that it is concerned by the possibility of pollution to both the upper and lower aquifers due to Schmidt's proposed operations. In short, DCPO testified that the uppermost aquifer is an ideal setting for a perched aquifer as it is underlain by material of lesser permeablity, but this material is inadequate in maintaining isolation between the two aquifers.

Moreover, DCPO testified that due to sand and gravel constituting the ground surface of the abandoned gravel pit, Schmidt's proposed location is in a recharge area for the upper aquifer. (Transcript, Vol. III, P. 190, L. 16-22 & P. 195, L. 18-23). DCPO further testified the uppermost aquifer is recharged from the infiltration of precipitation events and potentially in hydraulic communication with any surface water that ponds at Schmidt's proposed facility location (Transcript, Vol. III, P. 191, L.18-22).

DCPO testified that it is crucial to properly characterize subsurface layers due to the different permeability values and geotechnical properties associated with silt and clay (Transcript, Vol. III, P. 182, L. 2-13). Further, DCPO testified it did not observe any definitive evidence from Schmidt's application that clay is present at the location of Schmidt's proposed facility (Transcript, Vol. III, P. 181, L. 22-25 & P. 182, L. 1).

DCPO testified it believed the initial site investigation performed by Schmidt was inadequate to properly delineate the geology comprising the applicant's proposed facility. DCPO testified that the monitoring well and soil boring locations imposed by Schmidt were solely positioned in the southern half of the proposed site. DCPO testified the northern half of the proposed facility has not been cored and tested to identify the geologic material in the subsurface along the northern perimeter of the proposed disposal facility (Transcript, Vol. III, P. 197, L. 8-22).

With respect to the permeability data submitted on behalf of Schmidt, DCPO testified that due to the lack of documentation, such as a chain-of-custody, for the samples submitted to MLA Labs, Inc., the permeability test results are inadequate. Even if chain-of-custody could be

established, the permeability test results provided by Schmidt demonstrated that the material tested did not meet Railroad Commission standards for use as a natural liner (Transcript, Vol. III, P. 199, L. 10-23 & P. 15-22).

EXAMINERS' OPINION AND DISCUSSION

Based on the testimony and physical evidence submitted by the applicant and those parties determined to have standing, the examiners recommend that the subject application be denied. The examiners conclude that the applicant failed to meet its burden of proof and that approval of the proposed Duval County Landtreatment Facility may result in the pollution of surface and/or groundwater.

As a preliminary matter, the examiners note that some of the concerns voiced Protestants and their representatives are not expressly identified as requirements for the permitting of landtreatment facilities under 16 TAC §3.8. However, the examiners believe the basic issue is whether the applicant has demonstrated that the proposed operation will not result in the waste of oil, gas, or geothermal resources or the pollution of surface or subsurface waters.

First, Schmidt proposes to incorporate five individual pits, or "cells", to store and treat oil and gas waste. The examiners find that 16 TAC §3.8(d)(6) establishes governance in permitting the use and maintenance of a pit for storage of oil field fluids or oil and gas wastes. Specifically, this rule provides oil and gas operators the following:

"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."

The examiners also note the following definitions in 16 TAC §3.8:

- (25) Landfarming—A waste management practice in which oil and gas wastes are mixed with or applied to the land surface in such a manner that the waste will not migrate off the landfarmed area.
- (29) Surface or subsurface water —Groundwater, percolating or otherwise, and lakes, bays, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Gulf of Mexico inside the territorial limits of the state, and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, navigable or non-navigable, and including the beds and banks of all water courses and bodies of surface water, that are wholly or partially inside or bordering the state or inside the jurisdiction of the state.

The examiners conclude the subject application is the equivalent to what is defined as a landfarm under Commission rule. The location of the proposed landfarm is solely within an

abandoned gravel pit approximately twenty feet below the surrounding land surface. Schmidt's own evidence showed the intermittent presence of shallow groundwater at approximately four feet below the ground surface inside the abandoned gravel pit, as well as surface water in the form of a 35-acre intermittent pond. Schmidt testified these surface and subsurface waters were initiated by the collection of storm water accompanied with a "silty-clay to clay" layer that serves as an aquiclude, thus establishing a perched aquifer and surface pond. In an effort to mitigate the recurrence of the perched aquifer, Schmidt testified it intended to excavate the top four feet of soil material constituting the shallow water bearing zone in areas it proposed to treat and store oil and gas waste at its facility.

Schmidt testified that in order to prevent the migration of oil and gas waste beyond its proposed facility, it would construct a recompacted-natural liner that meets the permeability specifications of Railroad Commission policy throughout the areas (staging area & "cells") utilized for the deposition of oil and gas waste. Beyond that, Schmidt testified it would implement a stormwater control program to "catch" stormwater runoff that originates from the 270 acres north of its facility's proposed location and divert the stormwater around the north and east lease boundaries into a culvert that drains to the south side of Highway 16.

The geologic evidence submitted on behalf of Schmidt is inadequate. Schmidt failed to prove that oil and gas waste disposal, as it was proposed by Schmidt, could be accomplished without unreasonable risk to surface and subsurface water. Schmidt drilled five monitoring wells and three soil borings in an attempt to delineate the subsurface geology of the 103.94-acre lease. However, many of the wells and borings were in the southern half of the proposed facility. The examiners can not conclude that oil and gas waste disposal in areas within the northern half of Schmidt's proposed facility will not result in the pollution of groundwater, when the hydrogeologic and subsurface stratigraphic characteristics for the north half of the 103.94-acre lease were not established. Moreover, Schmidt testified it believed the direction of groundwater flow to be to the east-southeast direction; however, the monitoring wells it utilized in making this determination were solely in the southern half of its proposed facility. The examiners find this determination to be lacking as it presumes the groundwater gradient is continuous throughout the DCLF's proposed location.

The examiners believe that, as a consequence of the prior mining activity at its proposed location, the area comprising the abandoned gravel pit has become a recharge area for the perched aquifer zone and deeper water zone identified in the area. No where in its application did Schmidt identify the extent of the subsurface horizons comprising the subsurface water zones. In fact, Schmidt testified that it did not believe the operation of its proposed facility would harm fresh water bearing strata (Transcript, Vol. I, P. 268, 10-13), which it testified occurs deeper than the two water zones identified at the DCLF's proposed location. Yet, the examiners find that the requirement of 16 TAC §3.8 is to prevent the pollution of surface and subsurface water and that there is clearly subsurface water directly beneath the proposed DCLF and no credible evidence of any impermeable barrier protecting the subsurface water.

Second, Schmidt claimed the subsurface layer below the shallow groundwater observed at four feet below ground surface was made of material it described as "silty-clay to clay". However,

Schmidt acknowledged that it did not describe the material according to ASTM standards. Yet, the applicant testified it is aware that soil boring classifications are required by Railroad Commission policy to be described according to ASTM standards (Transcript, Vol. I, P. 188, L.9-12). Without use of the recognized ASTM standards, it is not possible to know exactly what soil characteristics are being described by the phrase "silty-clay to clay". The soil samples Schmidt collected were not accompanied by a chain-of-custody, or any other form of record to indicate the time, date, or location the samples were taken. Therefore, the examiners cannot rely on permeability results submitted on behalf of Schmidt's application or the recompacted liners that depend on those permeability results.

Third, the examiners conclude that the construction and maintenance of Schmidt's proposed recompacted-natural liner is not practicable, as defined by 16 TAC §3.8. No where in its application or testimony did Schmidt present evidence on how it intends to implement a process that will yield the permeability standard it proposed, other than it will install the liner and dikes in six inch lifts. The examiners note that the Commission's Surface Waste Management Manual stipulates it is reasonable for compacted soil liners to meet a compaction of 95% standard Proctor at a soil moisture content within 2% to 3% of the optimum moisture content. No where in its application did Schmidt address this standard.

In contrast, the examiners believe an applicant should consider the life span of any liner used in pit or "cell" operations for disposal of oil and gas wastes. The examiners find that no where in its application did Schmidt identify the effective life-span of the recompacted-natural liner system. In fact, Schmidt testified that as the material is recompacted continuously over time, the material will reach a point at which the permeability standard is no longer attainable (Transcript, Vol. I, P. 269, L. 10-14).

Further, the examiners find that the evidence and testimony Schmidt presented at the hearing in part contradicts its written application, thus further convoluting the technical aspects of its application. In its amended request dated June 24, 2011 (Schmidt Exhibit No. 5, P. 10-11), Schmidt claimed that the water observed in MW-3 was connected to the storm water pond impounded in the northeast corner of the abandoned gravel pit, due to seepage. However at the hearing, representatives on behalf of Schmidt testified that the groundwater observed at four feet below ground surface inside the pit was a perched water table isolated by impervious material. In other words, Schmidt claimed in the administrative application that the surface water is hydraulically connected to the deeper groundwater aquifer, yet at the hearing claimed the silty-clay to clay layer located from approximately fourteen to thirty feet below the ground surface in the abandoned gravel pit was an impervious barrier to water migration (Transcript, Vol. I, P. 265, L. 16-25). Also, Schmidt submitted soil samples for permeability testing from material it collected at 60 feet to 100 feet below ground surface, yet Schmidt testified it would excavate only the top five feet of the "silty-clay to clay" layer to form its proposed recompacted-natural liner and dike system.

The examiners believe the closure cost estimate is also flawed. The closure cost estimate does not take into consideration the cost to implement the additional monitoring wells as they were proposed. In addition, no evidence was presented to support the determination that monitoring of groundwater for one year beyond the DCLF's cessation is an appropriate amount of time. Although representatives of Schmidt speculated approximately \$78,000 would cover closure costs, no adequate evidence was provided by Schmidt to support its claim.

The examiners conclude that Schmidt failed to demonstrate that the acceptance and treatment of oil and gas waste at its proposed facility would not result in pollution of surface or subsurface, as required under 16 TAC §3.8(d)(6). The examiners believe the soil samples utilized by the applicant were not proved to be representative of material it proposed to use as the engineered, recompacted-natural liner and dike system. Accordingly, the examiners recommend that the application be denied.

FINDINGS OF FACT

- 1. Notice of this hearing was given to all affected persons at least ten days prior to the date of hearing.
- 2. Schmidt Oilfield Services Venture ("Schmidt") has applied for a permit to operate a commercial landfarm to dispose of oil-based and fresh water-based drill cuttings in Duval County, pursuant to 16 TAC §3.8.
- 3. The proposed Duval County Landtreatment Facility ("DCLF") is situated on 103.94-acre lease out of a 307.835-acre tract owned by Basic Energy Services.
- 4. The proposed DCLF is located within an abandoned gravel mine pit, approximately twenty feet below the land surface surrounding the pit.
- 5. Schmidt did not demonstrate that the proposed recompacted-natural liner and dike system at the DCLF would prevent migration of oil and gas waste into the underlying aquifers or beyond the boundaries of the proposed DCLF.
 - a. Ground water is found as shallow as four feet below ground surface within the DCLF and is hydrogeologically connected to the 35-acre intermittent surface pond identified within the abandoned gravel mine pit containing the DCLF.
 - b. The groundwater aquifers identified through the monitoring wells drilled by Schmidt at the proposed DCLF are not separated by impervious material indicating they are hydrogeologically connected.
 - c. Schmidt performed a subsurface geologic investigation of the proposed DCLF that identified the subsurface stratigraphy of solely the southern half of the 103.94-acre tract.
 - d. The proposed location of the DCLF is a groundwater recharge area for the shallow groundwater observed at four feet below the ground surface ("the perched aquifer") and for the groundwater zone immediately underlying the perched aquifer.

- e. The soil sample descriptions performed by Schmidt for the monitoring wells and soil borings at the DCLF did not incorporate the American Society for Testing and Materials ("ASTM") sampling and description methods or any other industry-standard methodology for sampling and soil descriptions.
- f. A Chain-Of-Custody for the soil samples Schmidt collected at the proposed DCLF was never performed or provided to MLA Labs, Inc.
- g. Stock ponds on properties adjacent to the proposed DCLF do not hold water.
- h. The subsurface below the proposed DCLF does not contain clay or other impermeable barriers to water migration.
- 6. The Texas Railroad Commission's Technical Permitting Section administratively denied Schmidt's applications to operate the DCLF on June 09, 2011, and July 22, 2011, due to the Commission's concern that operation of the DCLF would potentially pollute surface and subsurface water.
- 7. The nearest water well located on property beyond the proposed DCLF is the Viggo Gruy No. 1, located approximately 1,500 feet east of the proposed DCLF. That well is drilled to total depth of 395 feet and screened from 373 feet to 393 feet.
- 8. Schmidt's estimated closing costs for the proposed DCLF are inadequate.
- 9. Railroad Commission policy requires that natural pit liners meet a permeability standard of one time ten to the minus seven centimeters per second and the proposed natural liner will not continuously meet this standard.
- 10. Schmidt Oilfield Services Venture failed to prove that operation of its proposed facility would adequately protect surface and subsurface water resources, and therefore failed to meet the requirements of 16 TAC §3.8.

CONCLUSIONS OF LAW

- 1. Proper notice was issued as required by all applicable codes and regulatory statutes.
- 2. All things have occurred and been accomplished to give the Commission jurisdiction to decide this matter.
- 3. Schmidt Oilfield Services Venture failed to prove that the proposed DCLF would prevent the pollution of groundwater and surface water resources, and therefore failed to meet the requirements of 16 TAC §3.8.

Legal Examiner

EXAMINERS' RECOMMENDATION

The examiners recommend that the application of Schmidt Oilfield Services Venture to operate its proposed Duval County Landtreatment Facility in Duval County, Texas at the proposed location be denied.

Respectfully submitted,

Brian Fancher, P.G.

Technical Examiner