

## HEARINGS DIVISION

OIL AND GAS DOCKET NO. 01-0281775

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THE APPLICATION OF KENMARE INVESTMENTS, LLC FOR A COMMERCIAL PERMIT TO DISPOSE OF OIL AND GAS WASTE BY INJECTION INTO A POROUS FORMATION NOT PRODUCTIVE OF OIL OR GAS, E&M SWD LEASE WELL NO. 1, PEACH CREEK (AUSTIN CHALK) FIELD, GONZALES COUNTY, TEXAS

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OIL AND GAS DOCKET NO. 01-0281868

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THE APPLICATION OF KENMARE INVESTMENTS, LLC FOR A COMMERCIAL PERMIT TO DISPOSE OF OIL AND GAS WASTE BY INJECTION INTO A POROUS FORMATION NOT PRODUCTIVE OF OIL OR GAS, E&M SWD LEASE WELL NO. 2, PEACH CREEK (AUSTIN CHALK) FIELD, GONZALES COUNTY, TEXAS

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HEARD BY: Andres J. Trevino P.E., Technical Examiner  
Terry Johnson, Hearings Examiner

### APPEARANCES:

#### APPLICANT:

John Soule  
Austin Ivey  
John McBeath

#### REPRESENTING:

Kenmare Investments, LLC

#### PROTESTANTS:

Timothy George

Texas Water Alliance Limited in Docket 01-0281775 only

Barry Miller  
Irene Kunkel  
Johnny Rabel  
Jimmy L. Ham  
Carla Ann Ham  
Kenneth W. Wright  
Barbara Wright

Self  
Self  
Self  
Self & Ham Management Trust  
Self & Ham Management Trust  
Self  
Self

Lillie Suitt	Self
Kathy Davis	Self

**OBSERVER:**

Ben J. Schramm	Self
Judy R. Schramm	Self

**PROCEDURAL HISTORY**

Application Filed:	November 19, 2012
Request for Hearing:	March 20, 2013
Notice of Hearing:	April 18 & 19, 2013
Date of Hearing:	May 9, 2013
Proposal For Decision Issued:	November 4, 2013

**EXAMINERS' REPORT AND PROPOSAL FOR DECISION****STATEMENT OF THE CASE**

Kenmare Investments, LLC (Kenmare) requests authority pursuant to Statewide Rule 9 to operate Well Nos. 1 and 2 on its E&M SWD Lease in Gonzales County as commercial disposal wells. Kenmare Investments is the land acquisition division of American Disposal which will eventually operate the facility through a permit transfer. The wells will be drilled approximately 100 feet apart but will only operate one well at a time. At the call of the hearing, Tim George, representing the Texas Water Alliance, announced all issues with the applications have been resolved and withdrew the Alliance's protest. This application is protested by multiple adjacent landowners to the tract on which the proposed disposal wells will be located. The Protestants are concerned about groundwater and surface water protection, facility safety, odors, traffic safety, heavy traffic on rural roads, decreasing property values and industry need.

**DISCUSSION OF THE EVIDENCE****Applicant's Evidence**

The subject wells have not yet been drilled, and permits to drill the wells have not been issued by the Commission to date. It is proposed that the wells be drilled through the Edwards formation to a maximum depth of 6,950 feet. It is proposed that the wells have 1,350 feet of 9<sup>5</sup>/<sub>8</sub>" surface casing with cement circulated from the casing shoe to the ground surface, and 7" casing set through the Edwards, estimated to occur no deeper than 6,950 feet. The 7" casing will be cemented with 780 sacks of cement with cement circulated to a calculated depth of 1,150 feet, 200 feet above the surface casing shoe. (See Wellbore Diagram attachment). The Commission's Groundwater Advisory Unit recommends that

usable-quality ground water be protected to a depth of 1,300 feet. The GAU further requires that fresh water contained in the interval from the land surface to a depth of 350 feet and the Carrizo from a depth of 900 feet to 1,300 feet to be protected. The Groundwater Advisory Unit further identified the base of the underground sources of drinking water (USDW) at a depth of 3,400 feet. Kenmare submitted revised applications at the hearing as the original applications dated October 15, 2012 misidentified the BUQW as 3,400 feet instead of 1,300 feet, the correct depth. The revised applications also shortened the surface casing depth and increased the longstring cement volumes to adjust the coverage of the correct BUQW depth.

The proposed injection will be through 3½" tubing set on a packer at approximately 6,095 feet, but no higher than 100 feet above the top of the injection interval. The proposed injection interval is the Edwards formation, the top of which is expected to occur at about 6,165 feet. The proposed injection interval is between 6,165 feet and 6,800 feet. The estimated depth of the Edwards is based on the log of the Mobil Oil Company - Oliver B. Bundick No. 1. This well is approximately 900 feet to the northeast of the proposed wells and is the closest well which penetrated the Edwards and for which an electric log is available. The log shows there is approximately 2,300 feet of shale separating the top of the injection interval and the base of the underground sources of drinking water. The proposed maximum injection volume is 20,000 BWPD. The proposed maximum injection pressure is 1,500 psig.

There is one plugged dry hole within a ¼ mile radius of the proposed disposal wells. The Oliver B. Bundick No. 1 was drilled to a depth of 14,285 feet as a wildcat well in 1964; however, no productive zones were encountered and was plugged as a dry hole. In November 1983 the well was re-entered to a depth of 6,137 feet and was later plugged in January 1984. A Form W-3 shows the dry hole was filled with drilling mud and 150 foot cement plugs were set at 5,480 feet, 3,912 feet and 1,253 feet to isolate any fluids from groundwater zones (the Carrizo at the 1,300 foot depth). The well was recompleted and left as a water well for the landowner. The dry hole has adequate cement plugs across the usable quality water and above the Edwards formation to isolate fluids from the proposed injection interval. The well was plugged in accordance to Commission rules and is protective of ground water.

American Disposal which will eventually operate the facility, operates two other commercial disposal facilities, one in Fayette County and one in Jasper County. American Disposal has two other facilities permitted and under construction, one in Frio County and one in southern Atascosa County. American Disposal has operated the Fayette Facility since 1993. The Frio facility also accepts drilling fluids at the facility which is unique to most disposal facilities. American Disposal will construct the proposed E&M SWD Facility to accept drilling fluids along with the usual produced saltwater and frac flowback water. American Disposal has proprietary equipment to process the drilling fluids and separate the liquids from the solids. The liquids will be injected into the disposal well, while the solids will be treated and sold as road base material. American Disposal believes its E&M SWD Facility, by accepting drilling fluids, will provide an added service that is not provided by any

other disposal facility in Gonzales County. American Disposal has existing and long term agreements with operators throughout the State to dispose of drilling fluids and is confident it will receive sufficient volumes of fluids to make the E&M SWD Facility profitable. American Disposal was also approached by customers operating in Gonzales county requesting additional disposal capacity in the county.

The site was selected based on industry need and its proximity Interstate 10. The design of the facility is based on American Disposal's experience operating its other two disposal facilities. The proposed facility will consist of a location pad with approximately 2,400 bbls of saltwater tanks, several gun barrels, 1,200 bbls of oil tanks and injection pumps. All tanks will sit inside a concrete secondary containment basin eight inches thick with two foot concrete walls. The secondary containment system will hold the volume of all tanks within the containment basin and not just the largest tank, exceeding the Commission's requirement. All surface areas which are expected to handle fluids will be constructed of concrete. Fluids will be unloaded into a riser pipe where it will be transferred by pipe to the processing/storage tanks. The facility will have four unloading bays which will allow up to four trucks to simultaneously unload their fluids. The fluids will be pumped to a series of gun barrels to settle and separate any solids and oil from the injection water. The entire location pad which will handle trucks will be made of concrete. The pad is large enough to accommodate all expected arriving trucks on the property without the need to have trucks parked and waiting along the adjacent county road. Should additional trucks arrive that can not be accommodated at the facility, trucks will be staged at an appropriate offsite staging area (gas station) near Interstate 10. Trucks will enter the facility off SH 304 on the northwest side of the property and travel to one of four unloading bays. Unloaded trucks will then exit the facility through the southwest exit on to SH 304. American Disposal will use electric pumps instead of diesel pumps to minimize noise and exhaust emissions. Light at the facility will be directed inwards towards the facility to minimize light pollution. The facility will be staffed 24/7 and has video surveillance to monitor operations.

Kenmare plans to use the proposed well to dispose of drilling fluids, produced water and frac flowback water generated by the active and ongoing development of the Eagleford Shale in the area. Kenmare believes that additional disposal facilities are necessary to accommodate the active drilling which generates large quantities of disposal fluids.

Drilling permit data for Gonzales County shows that in 2010 Eagleford Shale wells were being permitted at a rate of 70 per year. In 2013, drilling permits were issued at a rate of 440 permits per year. Oil and gas production from the Eagleford Shale has also increased dramatically in Gonzales county. In 2010 oil and condensate production was approximately 1,000 barrels per day. In 2013 it is estimated oil and condensate production will be 90,000 barrels per day. A review of the Baker Hughes Rig count map for Gonzales County shows there were 21 active rigs drilling in Gonzales County on May 3, 2013. A Gonzales county map of Eagleford oil and gas wells shows the eastern half of the county has producing oil wells. A review of early production of Eagleford wells shows the wells will produce an average of 36% water. Kenmare estimated that 39,000 barrels of water per day is being generated in Gonzales County by Eagleford oil wells, Eagleford frac flowback water and Eagleford mud pits and drilling fluids. A summary of daily injection of current

disposal volumes in Gonzales County show 28,250 barrels of water per day are being disposed of, leaving a deficit of nearly 11,000 barrels of water per day. Kenmare stated they would not engage in permitting and building the facility if they were not confident the facilities' services would be in demand.

Kenmare Investments, LLC has an active P-5 on file with the Commission, with \$25,000 financial assurance bond. There are no active enforcement actions against Kenmare Investments, LLC.

Notice of the subject application was published in *Gonzales Inquirer*, a newspaper of general circulation in Gonzales County, on October 16, 2012. A copy of the applications were mailed on November 19, 2012, to the Gonzales County Clerk's Office and the offsetting surface owners and operators within ½ mile of the proposed well. The Schramm Trust owns the surface of the 5-acre leased tract on which the wells are proposed.

### **Protestant's Evidence**

The landowners individually stated their concerns with the proposed disposal wells. Barry Miller, is an elected Director of the Gonzales County Underground Water Conservation District and the general manager of the Gonzales County Water Supply Corporation, neither entity is protesting the applications. Mr. Miller, himself, is protesting the application and has concerns over the surface casing not protecting the USDW to the base of the Wilcox at a depth of 3,400 feet, possible surface spills to the sandy soil, which feeds the Queen City aquifer in the area, the disposal well's location being far from production sites and concerned over school children waiting for the school bus on SH 304. John Wright had questions regarding the well's location and what fluids will be disposed into the well. Barbara Wright had concerns of fresh water protection, fluid confinement in the well and at the surface facility, and industry need. Irene Kunkel is an adjacent landowner whom is planning to build a home to retire in and is concerned about odors. She mentioned the existence of an abandoned well near a tree. She has not reported it to the District office for them to investigate and did not provide a detailed location of the well. The Commission's GIS mapping system does not show a well in the area. Lillie Suitt is concerned about trucks waiting to unload parking on SH 304, truck traffic and accidental spills at the facility. Austin Ivey, representing Kenmare, answered the questions and addressed the concerns the Protestants had as best he could.

### **EXAMINERS' OPINION**

The examiners believe that these applications should be approved. The E&M SWD No. 1 and No. 2 will be completed in a manner which will confine disposal fluids to the proposed disposal interval in the Edwards formation. Surface casing for each well will be set and cemented through the base of usable quality water. The Commission's requirement is for surface casing to be set no further than 200 feet below the base of the usable quality water which is found in this case at a depth of 1,300 feet. The surface casing is set at 1,350 feet, compliant with the Commission's requirement. The longstring casing will also be cemented to a point above the surface casing shoe to prevent migration from the injection interval. There is approximately 2,300 feet of shale separating the top of the

injection interval and the base of the underground sources of drinking water. The usable quality water is generally defined as freshwater with a chloride concentration of less than 3,000 ppm. The underground source of drinking water or USDW is generally classified as brackish water having a chloride concentration between 3,000 ppm and less than 10,000 ppm. The Commission does not require surface casing to be set to the USDW depth of 3,400 feet, or even that the operator set cement across this interval. The Commission forbids the direct injection of disposal fluids into a USDW zone. The applicant is compliant with this requirement by injecting into the interval from 6,165 feet to 6,800 feet. There are no oil or gas wells within the  $\frac{1}{4}$  or  $\frac{1}{2}$  mile radius of review that pose a threat to groundwater contamination or confinement of injected fluids in the Edwards formation. It is unlikely the operation of the E&M SWD No. 1 and No. 2 will result in the contamination of surface or subsurface water or will endanger or injure any oil, gas, or other mineral formation.

The E&M SWD site will incorporate the requirements the Commission imposes on all commercial disposal wells to operate in environmentally sound and safe manner. The design of the secondary containment system to contain all the volume of tanks within the secondary containment system exceeds the Commission's requirements. The disposal fluids will travel by above-ground pipes to storage tanks, avoiding the use of pits. All areas expected to handle fluids will be constructed of concrete. The design and proper operation of the facility will minimize accidental spills and prevent the migration of disposal fluids from entering the sandy soils and the Queen City minor aquifer.

Approval of the requested permit is in the public interest because it will promote the development of the Eagleford Shale in Gonzales County and adjacent counties. Operators in the area had approached Kenmare/American Disposal about adding additional disposal capacity in Gonzales County. The eastern half of Gonzales County is active with drilling due to the widespread presence of the oil-rich window of the Eagleford Shale in the area. The E&M SWD Facility will accept and process drilling fluids and mud, which is unique in Gonzales County and will provide an added service to area operators. These disposal wells are needed to accommodate current and future disposal needs. Drilling permit data for Gonzales County shows drilling activity is increasing. Drilling permits issued has increased from 70 per year in 2010 to the current rate of 440 permits per year. Oil and gas production from the Eagleford Shale has also increased dramatically in Gonzales County. Since 2010, oil and condensate production has increased from 1,000 barrels per day to 90,000 barrels per day currently. Having an additional facility to dispose of produced water and drilling fluids will reduce wait times observed at other disposal facilities in the area. Having a disposal facility close to the horizontal wells will reduce disposal cost and increase hydrocarbon recovery.

The Commission has historically interpreted the "public interest" finding required by Texas Water Code 27.051(b) as limited to matters related to oil and gas production and as not including issues such as traffic safety and road conditions. The Commission's interpretation has been upheld by the Texas Supreme Court as reasonable and in alignment with the statute's meaning. See, *Railroad Commission v. Texas Citizens for a Safe Future and Clean Drinking Water*, 336 S.W.2d 619, 630 (Tex. 2011). Further, the Commission does not have authority over issues regarding dust, odors or noise abatement. The evidence indicates that the operation of the subject disposal wells and facility will not

adversely impact any surface or subsurface useable quality water and will enhance hydrocarbon recovery.

### FINDINGS OF FACT

1. Notice of this hearing was given to all persons entitled to notice at least ten (10) days prior to the hearing. Notice of the applications were published in the *Gonzales Inquirer*, a newspaper of general circulation in Gonzales County, on October 12, 2012. A copy of the applications were mailed on November 19, 2012, to the Gonzales County Clerk's Office and the offsetting surface owners and operators within ½ mile of the proposed wells.
2. The E&M SWD Nos. 1 and 2 have not been drilled. Kenmare plans to drill the wells to a maximum depth of approximately 6,950 feet. The top of the Edwards is expected to occur at approximately 6,165 feet.
3. The maximum requested injection volume for each is 20,000 barrels of water per day and the maximum requested surface injection pressure is 1,500 psi. The requested disposal interval is the Edwards formation between approximately 6,165 and 6,800 feet.
4. Kenmare Investments, LLC will permit the two disposal wells on one site to use one well as back up well should the other well need maintenance, to distribute fluids within the disposal formations and to increase the reliability and availability of the disposal facility. The wells will not be operated simultaneously.
5. Kenmare Investments LLC will transfer the proposed disposal wells to American Disposal to operate the facility. The principals of Kenmare are the same as the principals of American Disposal. Kenmare is an entity that acquires property and permits for American Disposal.
6. The E&M SWD Nos. 1 & 2 will be cased and cemented in a manner to protect usable quality water, and injection will be confined to the injection interval.
  - a. The subject wells will have 1,350 feet of 9<sup>5</sup>/<sub>8</sub>" surface casing cemented to surface.
  - b. The subject wells will have approximately 6,950 feet of 7" casing, cemented with 780 sacks of cement with a top of cement calculated to be at 1,150 feet.
  - c. Injection will be through tubing set on a packer no higher than 100 feet above the top of the injection interval.
  - d. The Groundwater Advisory Unit recommends that usable-quality

water be protected to 1,300 feet in the area of the proposed wells.

- e. The Mobil Oil Company - Oliver B. Bundick No. 1 well log shows there is approximately 2,300 feet of shale separating the top of the injection interval and the base of the underground sources of drinking water that will act to confine the injected fluids to the Edwards formation.
7. There is one plugged dry hole within a ¼ mile radius of the proposed disposal wells. The dry hole was plugged in accordance with Commission rules and in a manner protective of ground water. The well was converted to a water supply well and will not be a likely conduit for the migration of fluids.
  8. American Disposal which will ultimately operate the E&M SWD Facility now operates two other commercial disposal facilities in Frio County and Jasper County since 1993. Additionally, American Disposal has two facilities under construction in Frio and Atascosa Counties.
  9. The E&M SWD Facility will also accept drilling mud and drilling fluids for processing, separation and disposal, which is unique to saltwater disposal facilities in Gonzales County.
  10. The E&M SWD Facility will incorporate all required standard containment design features for commercial disposal facilities. Additionally, areas which are expected to hold fluids will have concrete containment systems underneath. The secondary containment system around the storage tanks will contain the entire volume of fluids expected to be stored within the tanks, exceeding the Commission's requirement.
  11. The pad will have four unloading bays and is large enough to accommodate trucks on the property without the need to have trucks parked and waiting along the state highway to off-load disposal fluids. Should additional trucks require off loading that can not be parked on the facility, trucks will be staged at an appropriate offsite location near Interstate 10 and not along State Highway 304 or County Road 248.
  12. Kenmare will use electric pumps instead of diesel pumps to minimize noise and exhaust emissions. Light at the facility will be directed inwards towards the facility to minimize light pollution.
  13. Drilling and oil production from the Eagleford Shale is increasing in Gonzales County.
    - a. Drilling permit data for Gonzales County shows that in 2010, Eagleford Shale wells were being permitted at a rate of 70 per year. In 2013, drilling permits were issued at a rate of 440 permits per year.

- b. Oil and gas production from the Eagleford Shale has also increased dramatically in Gonzales County. In 2010 oil and condensate production was approximately 1,000 barrels per day. In 2013 it is estimated oil and condensate production will be 90,000 barrels per day.
  - c. A review of the Baker Hughes Rig count map for Gonzales County shows there were 21 active rigs drilling in Gonzales County on May 3, 2013.
  - d. A Gonzales County map of Eagleford oil and gas wells shows the eastern half of the county has producing oil wells.
14. There is an industry need for additional disposal capacity in Gonzales County.
- a. Kenmare/American Disposal will construct the proposed E&M SWD Facility to accept drilling fluids and drilling mud along with the usual produced saltwater and frac flowback water which is unique in Gonzales County.
  - b. Kenmare/American Disposal believes its E&M SWD Facility, by accepting drilling fluids, will provide an added service that is not provided by any other disposal facility in Gonzales County.
  - c. American Disposal has existing and long term agreements with operators throughout the State to dispose of drilling fluids and is confident it will receive sufficient volumes of fluids to make the E&M SWD Facility profitable.
  - d. Kenmare/American Disposal was approached by customers operating in Gonzales county requesting additional disposal capacity in the county.
  - e. Kenmare estimated that 39,000 barrels of water per day is being generated in Gonzales County by Eagleford oil wells, Eagleford frac flowback water and Eagleford mud pits and drilling fluids. A summary of daily injection of current disposal volumes in Gonzales county show 28,250 barrels of water per day are being disposed of, leaving a deficit of nearly 11,000 barrels of water per day.
15. Due to increasing development of the Eagleford Shale with horizontal drilling in this area, large quantities of produced water must be disposed of. Use of the E&M SWD Nos. 1 and 2 as commercial disposal wells is in the public interest of promoting this development by providing a safe and economic means of disposal of the fluids associated with drilling and production.

16. Having a disposal facility close to the horizontal wells will reduce disposal cost, and increase hydrocarbon recovery.
17. Having a disposal facility that accepts and processes drilling fluids is unique to Gonzales County and will provide an additional service to area operators.
18. Kenmare Investments, LLC has an active P-5 on file with the Commission, and \$25,000 bond for financial assurance.

**CONCLUSIONS OF LAW**

1. Proper notice was issued in accordance with the applicable statutory and regulatory requirements.
2. All things have occurred to give the Railroad Commission jurisdiction to consider this matter.
3. The use or installation of the proposed injection well is in the public interest.
4. The use or installation of the proposed injection well will not endanger or injure any oil, gas, or other mineral formation.
5. With proper safeguards, as provided by terms and conditions in the attached final order, which are incorporated herein by reference, both ground and surface fresh water can be adequately protected from pollution.
6. Kenmare Investments, LLC has made a satisfactory showing of financial responsibility to the extent required by Section 27.073 of the Texas Water Code.
7. Kenmare Investments, LLC has met its burden of proof and satisfied the requirements of Chapter 27 of the Texas Water Code and the Railroad Commission's Statewide Rule 9.

**EXAMINERS' RECOMMENDATION**

Based on the above findings and conclusions, the examiners recommend that the applications be approved as set out in the attached Final Orders.

Respectfully submitted,



Andres J. Trevino P.E.  
Technical Examiner



Terry Johnson  
Hearings Examiner

**Proposed Wellbore Schematic  
E&M SWD No. 1  
E&M SWD No. 2  
Kenmare Investments LLC**

**HOLE SIZE: 12-1/4"  
Casing: 9-5/8" 36# @ 1,350'**

**Circulate cement to surface  
(surface casing)**

**BUQW @ 1,300**

**Approximately 2,300 feet of  
shale above injection zone.**

**Packer @ 6,095'  
Edwards Formation**

**Tubing: 3-1/2" @ 6,165'  
Injection Interval Top @ 6,165'**

**HOLE SIZE: 8-1/2"  
Casing: 7" 20# @ 6,950'**

**Injection Interval Base @ 6,800'**

**TD: 6,950'**

Exhibit No.:	14
Operator:	Kenmare Investments, L.L.C.
Docket No.:	01-0281775 & 01-0281868
Date:	May 9, 2013