QUESTION 1 - ESSAY QUESTION - 45 POINTS

After watching a documentary on TV addressing technological developments in the energy sector, Sponge Bob decides he wants to drill an oil or gas well in Texas. He knows nothing about oil or gas development or law so has hired you to advise him as to the details.

FACTS: Sponge Bob decides he wants to drill a new well near an existing oil or gas field on a 640 acre farm owned by Ole McDonald. Wells #1 through #10 have been drilled in the offsetting sections to the location where Sponge Bob plans to drill, and these offset wells produce mainly natural gas but also some crude oil from the Barnett Shale formation.

The McDonald Farm is quite active, with extensive livestock operations on site. When approached, Ole McDonald was not interested in any drilling operations on his lands - in fact he was quite upset that Sponge Bob was even considering drilling on his farm. Ole told Sponge Bob he did not own any of the underlying mineral rights, therefore could not grant Sponge Bob the right to drill anyway.

Sponge Bob proposes locating the McDonald Farm well as close to existing production as possible, so he proposes drilling five feet from the property line (see plat). Sponge Bob thinks the new well will probably produce mostly crude oil. He proposes to produce the oil and store it in a large tank on the McDonald Farm and suggests he will ‘flare’ the natural gas discovered, if any, in a manner that will light up the entire farm area so the cattle can see at night.

Once a week a semitrailer will come into the McDonald Farm and empty the oil tank, taking the product to a refiner who will pay Sponge Bob for the oil.

Question 1: Discuss Sponge Bob’s proposed drilling plan and advise him how to proceed, including a discussion of the following issues:

~~(1) Where he will get the right to drill a well from and how can he locate these parties?~~

~~Since Ole McDonald said he did not have the mineral rights Sponge Bob is proposing to drill five feet from his property line. Because of this he will need to obtain the property rights from the mineral owner of the adjacent property to Ole McDonald, of where he is proposing to drill. He can obtain this information free of charge at the County Clerk's office.~~

~~(2) the proposed location of the well~~

~~Sponge Bob has the right to drill five feet from Ole McDonalds' property so long as he owns or leases the mineral rights under where he is going to be drilling. Although it’s plausible he will collect oil that once was under the adjacent property, where he does not have mineral rights, it does not matter since he is protected under the rule of capture~~

~~(3) the proposed location and building of the oil storage tank, and whether he should build the tank before or after the well is drilled,~~

~~Sponge Bob will need to obtain the right to build on Ole McDonalds' property to build the oil storage tank. It is hard to tell from the image, although drawn to scale, as to whether Sponge Bob would be in compliance with the TRRC and their requirements to stay 150 feet or more from barns. Pending the compliance there I am unable to find a reason why he wouldn’t be allowed to build there.~~

~~(4) the proposal to flare the natural gas,~~

~~He is going to be out of luck. The Texas Railroad Commission only allows flaring up to 45 days at a time with a maximum of 180 days.~~

~~(5) whether Ole McDonald can stop Sponge Bob from drilling,~~

~~Ole McDonald would likely have a case of unreasonable use due to the amount of light that the flaring, if Sponge Bob got approved, and the effects it would have on his land. He would be using the flaring and the light it creates as a nuisance to get a judgment against Sponge Bob.~~

~~(6) the need to pay Ole McDonald or otherwise deal with him as the surface owner, and~~

~~Sponge Bob, if he wants to build on Ole McDonalds’ land would need the surface owners approval to move forward. However, if he chose to build everything, including the storage tanks, on the property of which he has the mineral rights he is entitled to do that.~~

(7) any other issues we have discussed in class that you think of relating to Sponge Bob’s proposal.

QUESTION 2 - ESSAY QUESTION - 40 POINTS

FACTS: Assume Sponge Bob drills a well on Ole McDonald’s Farm after modifying his drilling plans as you suggested so he could obtain the required permits and legal permissions required. The well Sponge Bob drills in fact produces crude oil, but has surprised Sponge Bob in that the well is also producing 25 barrels of salt water for every barrel of oil produced. Sponge Bob is thinking about disposing of the salt water by injecting it underground in a disposal well drilled on the McDonald Farm, but is also considering dumping the salt water into a local stream.

The new well also produces natural gas, but instead of flaring the natural gas as he originally proposed Sponge Bob suggests storing the gas underground on the McDonald Farm property. A geologist has told Sponge Bob a suitable formation exists under the McDonald Farm that could safely hold the injected natural gas without the gas migrating away. Sponge Bob is somewhat concerned that if he re-injects the natural gas he would lose ownership of it, but is unsure on this point. Sponge Bob also thinks he will need a loan to finance the gas storage project.

Question 2: Discuss Sponge Bob’s proposal for the salt water and natural gas and advise him how to proceed, including a discussion of the following issues:

1. ~~who does Sponge Bob need approval from to inject the salt water in an injection well on the McDonald Farm?~~

~~Sponge Bob will need to gain approval from the Texas Railroad Commission. Their requirements are as follows.~~

* ~~Whether an operator is eligible for a permit (has no past due franchise taxes, has the required financial assurance, and has no outstanding compliance problems applicable to the proposed injection or disposal operation.)~~
* ~~Whether all affected parties have been properly notified. For non-commercial wells, the surface owner and nearby oil and gas well operators are required by Commission rules to be notified. For commercial wells, adjacent surface owners also must be notified under Commission rules.~~
* ~~If a protest is filed, the RRC notifies the operator that the application cannot be approved administratively, and the operator is advised of their right to a hearing on the application.~~
* ~~That the proposed injection well is properly completed to protect groundwater with required surface casing to the base of usable quality water as determined by RRC’s Groundwater Advisory Unit with long string casing and cement to ensure that the injected fluid is confined to the proposed injection or disposal interval.~~
* ~~That there are no improperly completed, improperly plugged or unplugged and abandoned oil and gas wells of public record within ¼ mile of the proposed injection well. (This is known as the area of review, and may be expanded up to ½ mile or more in some circumstances.)~~

1. can he dump the salt water into the stream?

He cannot dump the water into a stream.

1. who does he need permission from to inject the natural gas?

He will need to gain permission from the Texas Railroad Commission.

1. does he lose ownership of the natural gas once it is re-injected?

He does not lose ownership once re-injected per the rule of capture.

1. if Sponge Bob needs a loan what assets can he use as collateral and how will they be secured by the lender?

Sponge Bob could use the assets of the well and the oil it produces as collateral.

1. any other issues with these additional facts that you can think of we talked about in class dealing with Sponge Bob’s project.

QUESTION 3 - ESSAY QUESTION - 40 POINTS

FACTS: Sponge Bob thinks he might want to drill a second well on the McDonald farm deeper since he has heard rumors that productive formations may exist well below the current producing formation, but no-one knows for sure what is deeper. He also wants to treat the existing well by applying a massive ‘frac’ job to the

well, injecting water and frac sand to open up the formations, after which he hopes some of the oil and natural gas from the adjoining lands might migrate to his wellbore. A friend also mentioned that he might get a compressor engine for his well to help ‘push’ the natural gas into the pipeline, and might help drain the formation (again, Sponge Bob hopes some of the gas will be ‘sucked’ from under the neighbor’s property).

Question 3: Discuss Sponge Bob’s desire to drill deeper and operational proposals, including the following issues:

1. should Sponge Bob get seismic data before he drills deeper since no-one knows what is down there?

Attaining seismic data could theoretically save him a considerable amount of money, if it were a dry hole. Even if he wasn’t going to drill a dry hole in this example it would provide critically important information which would help him find the “best” depth to drill to.

1. if he gets seismic data, whose permission does he need to ‘shoot’ seismic?

Sponge Bob will need to gain permission from the surface owner in order to shoot seismic.

1. do you recommend he use explosives, or a vibro-truck, in shooting the seismic?

Explosives are a rudimentary way to obtain seismic data these days. Sponge Bob would be best to use a vibro-truck to shoot the seismic since it is more environmentally friendly and is something that would be appreciated by the residents near the area of which you’re shooting seismic.

1. if the frac job works, can Sponge Bob take ownership of his neighbors oil or natural gas if it migrates to his well, and

If the frac job works, Sponge Bob under the rule of capture, retains ownership of the oil and natural gas his well “sucks” up regardless of where it came from.

1. can Sponge Bob use a compressor to push the natural gas into a pipeline, or is that illegal?

Sponge Bob can use a compressor to push the natural gas into the pipeline.

1. any other issues you can think of we talked about in class dealing with these additional facts regarding Sponge Bob’s project.

1. On a volumetric basis, the largest amount of waste product generated by a crude oil or natural gas producing well is usually which of the following:

* 1. ~~Drilling mud from drilling activities~~
  2. Salt water from production and fracturing activities
  3. ~~Condensate from gathering lines and pipelines~~
  4. ~~Drilling and production pipe~~
  5. ~~None of the above~~

2. Under the ‘reasonable use doctrine’ a mineral owner or oil and gas lessee most likely could:

1. ~~Utilize whatever amount of surface area they desired to drill a well~~
2. ~~Drill a fresh water well and use that water for operations on the site~~
3. ~~Build a refinery on the site to refine oil trucked onto the site if the use was reasonable~~
4. Inject salt water produced off the lease premises in injection wells on the lease
5. ~~All of the above~~
6. ~~None of the above~~

3. The ‘reasonable use doctrine’ applies to:

1. Interstate pipelines that transport natural gas to cities such as Chicago
2. The local gasoline filling station seen on many street corners
3. Crude oil refineries and their related operations
4. Electrical distribution facilities and transformers at utility owned electrical generation facilities
5. Offshore drilling platforms and related underwater pipelines
6. All of the above
7. None of the above

4. Under the ‘reasonable use doctrine’ a mineral owner or oil and gas lessee:

1. ~~Is responsible for paying damages to the surface owner for the reasonable use of the surface~~
2. ~~Is responsible for paying damages to the surface owner only for operations off the leasehold premises~~
3. Is responsible for paying damages only for an unreasonable use of the surface at the well site.
4. ~~All of the above~~
5. ~~None of the above~~

5. In Texas the ‘accommodation doctrine’ supplements the ‘reasonable use doctrine’. What is required to invoke the accommodation doctrine:

1. ~~The presence of ‘sour gas’, that is hydrogen sulfide in the natural gas product~~
2. A pre-existing use of the surface, among other factors
3. A state statute that encodes the accommodation doctrine, and the requirements
4. A regulatory finding by the applicable state agency that the doctrine applies
5. All of the above
6. None of the above

6. In Texas, you buy an interest in an oil and gas lease and want to drill an oil and gas well. The surface is owned by a third party unrelated to the mineral owner. Which of the following is true:

1. ~~The surface owner can keep you off the property until you settle prospective damages~~
2. ~~The surface owner is the dominant estate, and has the power to stop mineral development~~
3. The lease owner will many times agree to pay damages to the surface owner and will enter into a contract specifying surface activity the partied agree to even if it is not required by law
4. ~~All of the above~~
5. ~~None of the above~~

7. Higher commodity prices can make marginal properties that have environmental concerns economically viable for producers. In light of this fact, investing $1 on January 1, 2000, which of the following investment choices would have given you the largest return?

1. ~~Natural gas prices, as measured by the Henry Hub spot price~~
2. ~~Food prices, as measured by the FAO Food index~~
3. ~~The U.S. stock market, as measured by the S&P 500 Index~~ **~~30.2864437%~~**
4. Crude oil, as measured by the West Texas Intermediate benchmark
5. ~~The U.S. stock market, as measured by the Russell 2000 Small Cap Index 142.4923926%~~

8. In Texas, you buy the surface and mineral rights to a 40 acre tract of land. The tract of land is damaged by oil and gas activities. With regard to a damage claim, which of the following is true:

1. ~~Permanent damage will be measured by the cost of repair~~
2. ~~Punitive damages are never awarded for oil and gas environmental damages~~
3. Temporary damages are measured by the cost of repair
4. ~~None of the above~~

9. In Texas, you operate a crude oil well for Pony Oil Co. Inc. It produces 10 barrels per day of crude oil and 45 barrels per day of ‘produced water’. Which of the following is true:

1. ~~In general, most ‘produced water’ contains salts that can be dangerous to the environment~~
2. ~~In general, the ‘produced water’ is disposed of in specially permitted disposal injection wells~~
3. ~~In general, ‘produced water’ volumes increase over time as an oil well depletes~~
4. ~~In Texas, the surface owner owns the rights to the ground and surface waters~~
5. All of the above

10. In Texas, you are involved in a dispute with the surface owner regarding to the use of the surface on which you are drilling a well. No oil and gas lease provisions apply. The landowner claims you are using more surface than is reasonably necessary. Which of the following is true:

1. A well located in the City of Arlington (urban area near Dallas) may be considered a nuisance and an unreasonable use of the surface while the identical operation on a remote ranch in West Texas may not be considered an unreasonable use of the surface
2. ~~Texas Railroad Commission regulations define what drilling activities constitute a nuisance and what constitutes unreasonable use of the surface~~
3. ~~EPA regulations prohibit the use of an unreasonable amount of surface when drilling a well, and will hold a hearing on this issue on request~~
4. ~~All of the above~~
5. ~~None of the above~~