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The Provisions Needed by Surface Owners In Surface Use Agreements.

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Note: This article is long. That is because the use of your surface for a horizontal well site is big, complicated deal – a much, much bigger and more complicated deal than anything else you have ever done. It is a way bigger deal than buying a house or a car. Be prepared to take your time with this. Do not make the same mistakes West Virginians made when they quickly and ignorantly sold their coal for $1 an acre a hundred years ago and allowed Coal to leave a legacy of un-reclaimed sites and water pollution.

Also Note: This article is aimed mostly at people who own the surface, but do NOT own the minerals/oil and gas under them. However, these suggestions for terms in surface use agreements will also be helpful in two other situations. First, if you own both the surface and the minerals and you want to negotiate a new/first time lease that also allows the driller to use your surface for the well site (and their form lease will say so) or other disturbance this article may be helpful. The other, better alternative is a "no surface use" lease. Second, it may also be useful if the driller wants to amend an existing lease. They driller will want to-do this when there is already an older lease for your minerals that you or a previous surface/mineral owner signed that does not have a "pooling" or "unitization" paragraph/provision. They may also want a revision if there is a newer lease that has such a clause but with a maximum size limitation of 640 acres or less that the drillers are now saying is too small. In these second cases the driller needs to "modernize" the lease with an amendment to provide for the pooling it wants to do, and so you need/should be able to "modernize" the lease for the things you want that landowners are getting now. It is important to realize that negotiations in those situations may be affected by the relatively new "cotenancy" legislation. We have a web page on that. {{{https://wvsoro.org/the-2018-cotenancy-law-does-good-things-for-surface-owners/ }}} We told you this is complicated! In those situations it is very highly advisable to contact a lawyer familiar with the cotenancy law.

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INTRODUCTION.

In 2019 a decision of the West Virginia Supreme Court radically changed the relationship between drillers and surface owners -- in favor of the surface owners. The name of the case is *EQT production Company v. Crowder*, 828 S.E.2d 800, 2019 WL 2424728 (June 5, 2019), or just "*Crowder*" for short. For a copy go here: {{{https://wvsoro.org/wp/wp-content/uploads/2019/06/DecisionEqtVsCrowderSurfaceUse2019-06-05.pdf}}}. In that case the Supreme Court has ruled that the mineral owner (including the mineral owner's "lessee"/driller who together we will call the "driller") has to have the agreement of the surface owner in order to use the surface owner's land for a well site to drill well bores into a mineral tract that is not the mineral tract that underlies the surface tract of land! So in essence **the driller needs your agreement to use your surface to drill horizontal wells** (because most all horizontal well bores are longer than the underlying mineral tract is long or wide). If you want to be sure what this means in your situation read our web page:. {{{https://wvsoro.org/probably-can-refuse-maybe-block-horizontal-well-land/}}} What this means is that if you just do not want them there, you can say "No!" and they cannot come on to or disturb your surface.

However, if you are OK (for the right amount of money) for the driller to use your surface land for their purposes (with the surface protections you want!), then they will need you to sign papers giving them that permission and setting out the payment and the other terms of the agreement between you and the driller for their use of your surface. Sometimes these papers are named "surface use agreement" or just "agreement", sometimes they are called a "consent". There is no legally required name they have to be called. We will call them "papers" or "surface use agreements" or "SUA's". Always read anything someone asks you to sign and make sure you understand what the language says and means and does whatever it calls itself at the top of the page

The purpose of this article is to help you, if you want to, to get an agreement that provides needed protections and that pays you what the use of the land is going to be worth to the driller (not just what the land used to be worth to you as farm, or as timber, hunting, or residential land).

Let us first say that in almost every instance we know of before now where the surface owner has signed a surface use agreement, once the well site preparation and well drilling get going, they have regretted allowing the driller on their land, or at least thought they did not get enough money. Particularly this has been true if the surface owner actually lives on the land or farms it or spends a lot of time caring for it. We hope that will now change because the surface owner is now clearly on an equal or better bargaining position with the driller. And the purpose of this article is to help surface owners who want to make surface use agreements get agreements that have enough protections and that requires payment for the value of the use of the land to the driller, in order to get what they want so that this regret does not happen as much.

BASIC ADVICE.

This section has a number of pieces of advice that apply generally to what you are about to do. And many of them apply in other situations.

First, this agreement will be in effect and binding on the driller and on you and on your generations that follow you. Take your time and get it right! The more in a rush the driller seems to be, the more you need to take your time. Do not fall for the "My boss says I need to have this done right away," scam. Also in our experience, when the driller says this offer is good until (some date) the offer will go up and not down after that date. And do not make decisions on the spot without talking to someone else first, even if it is not a lawyer as we recommend below. You will notice that the land agent almost always has to talk to someone above the land agent's head for final approval and get back to you, and that is part of their reason for that practice -- they do not want one person's weak moment to govern what happens. Do not make same day snap agreements. It is too easy to make mistakes and misjudgements.

Second, you should have a lawyer read any papers over before you sign them. Legal concepts are going to be buried in the language – particularly if negotiations start out using the driller's form papers. Even better, have a lawyer familiar with these issues negotiate it for you. Lawyers are trained not only in the law, but in negotiation. The driller's representatives feed their families by being experienced or trained in negotiation. We have a list of lawyers who asked to be placed on our website. {{{ https://wvsoro.org/lawyers-experts-testers/ }}} Think of hiring a lawyer as buying insurance like you have on house or car to save you from financial disaster. It is insurance from making a disastrous mistake regarding your land, and so is well worth the money paid. It may cost you some money, but you should get lots of money for the use of your land and you can pay the lawyer out of that. At a minimum, as we have said above, even if you negotiate yourself, have a lawyer read over any and everything it before you sign it!

Third, get it in writing! If there is something you want, and the driller's agent says, "Oh don't worry about that. We'll do that without putting it in the agreement" or "Don't worry we always/never do that," then you should worry about that. Even agents acting in good faith can remember things differently than you did. Sometimes they had something else in mind that they meant using language or words that you thought meant something else. Employees at drillers can be here today and gone tomorrow -- particularly for land agents. The agent that replaces the one you were talking to will not know anything about what the original agent said he agreed to if it is not in writing. Companies trade whole wells and well sites like baseball cards. Your children, once you are gone, will be poor witnesses in court as to what you said and you agreed to. There is nothing like staring at printed words on a page to eliminate misunderstandings and preserve what you agreed to.

Fourth, remember this is business. West Virginians like you generally are wonderful, trusting people who want to be polite and friendly and neighborly and get along. We have known land agents in the industry that believe that is being a sucker! And you can still be polite. But, as the character in the movie The Godfather said, "Tell him it was just business." Thousands and thousands of dollars are at stake, plus the future of your land. Don't fall for the

charm of the person talking to you. The good cop may well also be a bad cop -- or at least an experienced professional doing the best the land agent can do for their employer.

Fifth, the *Crowder* case has changed the surface use agreement negotiation dynamic drastically in your direction! WVSORO's job it believes is to impress this upon surface owners -- that they are now in the strong bargaining position and can make demands for what they want. The industry members on the other hand, from the land agents you talk to up to the top of their chain of bosses, are used to doing business the way it always has. Many in the industry have a sense of entitlement. What the industry has always done is pay "by the acre" and do small favors for surface owners in terms of protections during negotiations, and paid only what the land was worth to the landowner before the driller showed up. The industry is not accustomed to accommodating the more and bigger demands from surface owners that surface owners now have the leverage to demand. So you will hear, "We don't do that," when they can really -- they just never have before and do not want to now. You will hear "We can't do that," which really means that the person you are dealing with does not have authority to agree to that, and if you want it anyway, someone up the chain of command is going to have to agree to it – and you should press for it because if it is physically possible, it can happen. And after *Crowder* you can insist on it happening! For big demands you may have to want it bad enough to tell them that if you don't' get it you won't sign. But it can happen and you can get it.

Sixth, there is strength, and leverage, in numbers. We chased the drillers out of flood plains in the valleys. That is good. So most well sites now are on top of mountains. Boundary lines between surface owners are often on mountain ridges. So well sites now are often on several neighboring surface owners. Get together with them and negotiate together. There is strength in numbers and it will stall their efforts to divide and conquer. If you don't know who they are, the county assessor's office can tell you who is paying taxes on the surface property next to you and usually give you a mailing address. It is quickest if you have your tax ticket in front of you when you talk to the assessor. It might work on the phone but it might be best for you to go in so they can show you the tax maps to be sure.

Seventh, negotiate the surface protections first. We have found that is better than talking money first. We have found that land agents are a lot more willing to give you surface protection when they are still worried about what they are going to have to pay you.

Eighth, the industry argued against the West Virginia Supreme Court's ruling saying that the common law case law says that it is OK to use new technologies that were not in use at the time the papers were signed. And we are OK with new technologies as long as they do not increase the burden on your land and your use of the land. We said there is case law that forbids new technologies that were not contemplated at the time of the papers. To avoid having that fight, language should be inserted in the papers that says if they use new technologies that increase the burden on the surface or increase the impact on the uses of the surface, they have to get new consent from the surface owner.

Ninth, the driller will need pipelines that transport gas from the wells to market. And they may need pipelines to transport frac water to the well site. That is part of what they are paying for when they pay you for a well site. However, sometimes they are wanting to lay pipelines to transport gas from a different well site across your property to market, and

sometimes they are wanting to lay pipelines to transport water across your land to a well site on another tract of land. That should not be a part of the papers (and for the same payment) as for the well site. You should negotiate a separate paper for those pipelines, and get paid more than you are getting for the well site on your land. After all they are using those extra pipelines to make money using your land. We have some web pages on pipelines: {{{https://wvsoro.org/category/pipelines/}}}

Tenth, go look at a well site. The driller approaching you should be willing to take you to one of their sites during the drilling process when there is a tall rig boring into the ground or during a "fracking" process when huge compressors and pumps are cracking rocks 5000 feet down in the ground. Make sure you see one of those -- particularly if they say it has the protections that you want. And they can surely take you to one to see what it is like after it is in production. Or you may just want to go see one of the sites of the driller that is trying to get you to agree to a well site without them knowing you are coming. As with well sites of other drillers, the drillers block the road, but you can walk across the surface owner's land to get to it without using the road. Our legal opinion is that the driller is just using that surface owner's land -- that it still belongs to the surface owner. {{{https://wvsoro.org/category/going-on-land/}}} So unless it is the surface owner that has no-trespassing signs up, you can walk the hill and get to the well site and look at it.

Finally, note that the driller's land agent may well have read this article which is public on the WVSORO web site.

SURFACE USE PROTECTIONS.

Enforcement.

You can have all the surface protections in the world in your agreement, but what if the driller ignores them? Some surface protections are required by law. The State requires drillers to follow the protections found in "The West Virginia Erosion and Sediment Control Field Manual". We have a web page that explains the value/uses of the Field Manual for you, and where you can obtain or view a copy of the Field Manual. {{{https://wvsoro.org/importance-wv-erosion-and-sediment-control-field-manual/ }}} You should at least look through it. We recommend carrying a copy with you when you talk to the drillers so they know that you know what they are supposed to do.

The good news regarding enforcement is that if the driller violates the Field Manual the State can enforce its terms. The bad news is that the State's enforcement is spotty at best. If you see a violation and report it, the state inspector will often call the driller first and ask the driller to meet at the violation. Of course by the time the inspector gets to the meeting the driller has usually fixed the problem. That is good, but it is hardly a deterrent to the driller cutting another corner the next time in violation of the Field Manual. (So take pictures or videos before you call anyone. It is hard to argue with a picture. Take some from far back and some from up close and some from different angles.) Part of the problem is that the Legislature has limited the DEP's enforcement power by requiring the State to go to the local Circuit Court to get a fine. (All the other DEP agencies can issue the fines themselves which can be appealed to Circuit Courts.)

Even though State enforcement of the Field Manual is spotty, this is a good first step to try because it could solve the problem quickly. But if that does not work, or if the violation of the agreement is not something covered in the Field Manual, how can you enforce it? Generally you could go to court and get an injunction, but that would require you to pay a lawyer by the hour and you might have to post a bond for money you could lose if you lose. Or you can sue for damages caused by the violation, but that is expensive and takes months and months and you may have to wait for the damages to go on long enough to be valuable enough that a lawyer would take it on a percentage/contingent fee basis.

We therefore highly recommend that the agreement includes a "self help" provision that states that if there is a violation of the agreement, the surface owner can notify the driller (we recommend certified mail or recording your conversation). And the provision will provide that if the driller does not respond to that notification by writing or images establishing to the surface owner's satisfaction that there really is not a violation, or if the driller does not fix the violation in 10 days (or 1 day if there is a current leak or other similar problem, or 3 days if there is imminent danger to the safety of the environment, land or persons), then the surface owner can come onto the driller's operations and fix the problem themselves or hire a contractor to do so. And then the surface owner can charge the driller for the cost of the fix up. (Note that you already have the right if you own the surface to come onto the surface of what is going on – but not climb in the equipment See our web page on that: {{{https://wvsoro.org/legal-opinion-right-of-interested-citizens-to-go-on-land/ }}}) This term in the agreement would even let you climb on the equipment, but be careful for yourself and damage you might cause.)

This right to "self help" is very important. You may still have to go to Magistrate Court or Circuit Court to get back the money you paid, but you need to have the right to go on to the driller's well site and install additional sound barriers, or fix problems with silt fences or road slips etc. and fix the problem. They will want to avoid your self help because they would rather fix it themselves because it will be cheaper probably than your contractor. Of course if they have demonstrated consistently shoddy work, you may prefer a contractor you choose. So this will motivate them to do so. You could also put in a provision that if you have to sue to get repaid or even to enjoin the problem, and if you win, you get your attorney's fees paid. This is not that unusual in contracts in other areas.

What is your land use?

This article will generally assume that you or someone is residing on the land. But it may be that your land is just a timber lot, or hunting land or a rented meadow and that you will not need or want all of the protections we suggest need to be in surface use agreements. Or you may have a special use as Farmland Preservation etc. and want special things. So negotiate accordingly.

Remember too that you may have neighbors who you want to protect.

Location of well site, road, service areas, gas pipelines, water pipelines.

It is extraordinarily important to insist on a location that least disturbs your current and future use of the land. We say "future" because we sometimes hear of people planning to use a current meadow for a future home location. So think of future uses.

Location is a concern related to all of the further considerations we talk about below, like noise and dust etc. Almost all of those things will be affected by the location of the pad, the road, the service areas, the gas pipelines and the water pipelines. So don't come to a conclusion on locations until you have thought about all of the other issues to be considered below.

Roads and service/staging areas.

The roads to modern horizontal shale well sites are very different from the old conventional well site roads. These new roads will be wide enough for two tractor-trailers to pass each other and they will be graveled for all-weather use. Some people like negotiating for the right to use the road along with the driller because it gives them more, better access to other parts of their land. You can negotiate into the papers that you have this right. They might have the entrance gates locked and give you a key. Other surface owners do not like the roads on their land because it invites ATV's etc. to get access to areas of their land that otherwise would not happen. In that case negotiate very high quality gates with fenced extensions to prevent ATV's from riding around them. And as is the case with all things you want done, the agreement needs to provide that driller has to not only install them, but maintain them so they are effective -- in this case repair the extensions if they get knocked down, or extend them if people start riding around them.

These new roads for horizontal wells cannot have curves as sharp as the old well roads. Also some areas have poor soils or steep slopes that can make building roads that will not cause problems difficult for the driller. The driller may use these arguments to want to put the road where you do not want it -- close to your house maybe, or in part using a current driveway. Do not give in to that argument. As an engineer has told us, there is always a way for an engineer to get something done the way you want it, it just costs more. The driller does not want to spend more. But the drillers can afford it. The driller may have to find another way in across someone else and pay for that right of way. OK by you.

NEVER agree to a road near your house, and in addition to that you may want noise protection on the road if you can see it from your house (or could if the trees were not there). There will be unbelievable amounts of traffic. Enough trucks to bring in probably 8 to 10 miles of horizontal pipe and the same length of vertical hole pipe casing. And even if they do not truck in Olympic swimming pools of water and instead use a pipeline, they will still truck in all the frac'ing chemicals, and truck out all the condensate hydrocarbons (with hazardous material placards on the sides of the trucks) and brine water. And they will be trucking condensate and brine water for the life of the well site, although in sharply deceasing amounts. The same for using part of your driveway – even if they use a part that is far from your house there will be lots of conflicting traffic between you and the driller, and while these roads are better built and

maintained than the older conventional well site roads, there may be days you cannot get in and out at all.

Noise is a big factor in the location of roads. The big trucks make a lot of noise going up the road, and their brakes can make a lot of noise coming down. If the road has a sight line to your house, make them install a noise barrier, and disallow them from using "Jake brakes" or other loud braking techniques.

One of the big challenges in preventing roads from causing soil erosion and sedimentation is the slope of the road -- how steep it is. Provide that they cannot have any section of the road that exceeds a 10% grade. That steep of a road or steeper will cause problems. And while the driller may maintain the road fairly well during the drilling process, later when they are hardly using it at all, you may have trouble getting the driller to keep it maintained. Once the well site has been constructed, you might want to check periodically to make sure all the water bars, culverts and other drainage features of roads etc. are maintained. This is one of the things that you can use the State to enforce since this is required by the Filed Manual.

In addition to roads, drillers frequent want staging areas (think parking lot) where trucks and other equipment can be parked temporarily. We have not heard as many complaints about them. But do not let them put them where they will be a problem for you.

Well sites.

There is some terminology to get straight here. The well "pad" is a defined term for some state regulations. It is where the actual drilling and, later, production will occur. But the "limit of disturbance" is the wider area around the pad where the driller will have to bulldoze a plateau including pollution control devices, tanks for brine and hydrocarbon condensates, separators, etc. even some space to store excess top soil or other dirt for later reclamation. The term sometimes includes the well road. Then there is the "pit" which is sometimes used to hold drilling fluids and flowback during drilling. And there are "impoundments" where water (sometimes called "fresh" water) is sometimes stored before being used for frac'ing and other drilling processes. For the purposes of this article we are calling all of that the "well site". Do note that impoundment does not have nearly the noise and light issues that the actual drilling pad and pit have. Also many drillers are now piping water in, sometimes for separately permitted central water impoundments, or from far away rivers so this may not be an issue for you.

Drillers started out putting well sites in valleys and hollow bottoms because it is cheapest for them. Then we started getting flood plain regulations and requirements enforced, and things changed and now most are now drilled on hill or mountain tops. West Virginia is a state with lots of mountains and hills, and that causes most tracts of land to be mostly mountain or hill sides with little flat or almost flat land. The mountaintop or hilltop is often where the only other relatively flat land in a tract of land is located, and often it has nice meadows. The size of these well sites makes them impractical to put on the steep sides of any hill or mountain. So you may have to give in on the use of the mountain/hill top, but just where they put the well site etc. along the mountain ridge is negotiable. And remember your neighbors.

There may be some special areas on your land you do not want disturbed. Be sure that you get put in the papers that they have to avoid those. Ask for their initial drawing of the well site location and have the papers say that it has to be in that approximate location unless you give further approval. It would be nice if you had final approval of the exact location. But they will have trouble agreeing to that because there can be small changes that they discover are needed as they are building the site. But attach their approximate map to the papers and say the well pad has to be located approximately there unless you agree to a change.

The driller will need pipelines for the gas from the well site to market. And the driller may use pipelines to bring water to the well site for fracking. Make sure the locations they want for those are OK by you and have them included with or on the approximate map of the well site. There is more below on pipelines from other well sites that cross yours.

You are negotiating a price for a well site on your land. Make sure they do not include uses other than for what is necessary for the well site. For example a compressor is generally not needed for a well site other than one necessary to actually drill the well bore. Compressors are needed sometimes as the gas moves through the gathering and transportation pipelines to market. They should pay you extra for those. People get six figures just for some compressor sites.

As a general rule drillers do not fence well sites in. If the site is near your residence and you have small children or some other concern, you should consider insisting on that;

Lights.

We did not expect it, but lights are one of the things that we get complaints about that most bothers people residing near well sites, so they are listed first. Having the lights from the well site so bright that you can play basketball 3 a.m. is not good. People complain of having to buy all new curtains and still light leaks around and causes problems with sleeping. Fortunately this is relatively easy to fix.

Require all lights to be shielded between the bulb/fixture and your residence. Sometimes they have light poles that provide broad area light to the whole well site. They should be on the edge of the well site and point to the middle and be shielded from shining outside the well site instead of being erected in the middle and shining outward. Or if there is no one on the other side of the well site, put them on your side of the well site and point them away from you.

A certain amount of "sky glow" is still going to exist as the lights reflect off the particles in the atmosphere and the equipment on the site. But otherwise there is no reason the driller cannot shield you from direct lighting.

Noise.

We hear about this second most. However, it is the most complicated to deal with.

Well site construction, well drilling, well completion ("fracking") and finally, gas production all make a lot of loud, irritating noise. This will happen for many months and even a

year or two, and the production of gas will for decades. Being around extremely loud noises for this length of time is much more than just irritating. It can cause serious health problems. We strongly recommend that you protect yourself and your family from this.

Drillers can do a lot to reduce noise by changing their equipment and operating methods. The road and well sites can be placed as far as possible from your home; hills can serve as sound screens and even trees and buildings can help. Sound barrier walls can be put up to contain the sound in the well and construction sites and we believe should be something you should insist on. We do not think that enough soound protection can be achieved without these walls. These and other things can be done to reduce the noise, but will only be done if you include them in your agreement with the driller/operator. Noise reduction can be a little involved, so we have included it in a separate appendix to this article. Take the time to read and understand this appencix/guide on noise; it is worth the effort.

Our principal advice is that the papers/agreement require that in the well site construction/reclamation plan (which the driller is required by the State to include in its permit application) a registered professional engineer certifies that the well site plan include facilities and measures that will result in a decibel level at your residence (or any other structure or use of the land you want to protect) that does not exceed the World Health Organization recommendation in the appendix. You might even ask to be able to review the nosie control provisions before the plan is field with the State (so you can check it against what we have said here or with another professional).

Experience has taught us that the requirement of a registered professional engineer is very important. When the State started to require plans for well sites to be drawn by registered professional engineers, the number of problems with well sites diminished greatly. If the driller says they have someone other than a registered professional engineer that can do the noise control job, tell them first, that you do not have enough confidence in that person if an engineer does not have enough confidence to include what they say in the engineer's plans. Tell them second that the very fundamental design location, orientation etc. of the site affects nosie levels and so the engineer needs to consider noise from the beginning.

The papers/agreement must also provide that if in actual use, the planned performance and facilities and measures do not prevent sound levels from exceeding those levels, the driller must make change to facilities and take measures required to comply with the sound level requirements -- and if the driller will not fix the problems immediately, then as stated above in enforcement, the surface owner can contract for facilities etc. and bill the cost to the driller. Examples include a bigger or better sound wall or one closer to the noise maker, or install hospital quality mufflers on engines etc. –

There are some things that we advise need to be mandatory.

•Pipe unloading, construction using heavy equipment, and such particularly noisy activities should only occur between 8 a.m. and 11 p.m.

•Unless there is a hill between your residence etc. and the well site, a sound wall should be installed between the pad and your residence etc. (and those of neighbors). We cannot imagine how the noise levels can be reached without a sound wall.

•On the roads, trucks cannot use "Jake Brakes" or engine brakes or similar loud trucking practices.

Surface erosion/water runoff.

The driller is required by the State to have a plan called a "WW-9 Fluids/Cuttings Disposal and Reclamation Plan" as a part of its application for a permit to drill the well. The good news is that it is required to be completed by a registered professional engineer. Since that requirement went into effect in 2012, problems with impoundment wall slips, road slips, erosion and runoff have greatly diminished. In part that is because the plan was completed by an engineer and in part because engineers sometimes follow up to make sure the plan is carried out to their specifications. But problems still exist. We suspect that the problem is often maintenance of the plan after it is first constructed. So you should check on silt fences, culverts etc. yourself, and take a camera/cell phone.

In particular if you have a pond on your property you want to make sure that the soil erosion and sediment control plan is adequate. In particular you should ask for a "super silt fence" above the pond rather than anything else.

Make sure they agree to "bank" the top soil for use later.

Vegetation.

The driller is required to do a vegetative ground cover after the site is completed as part of "temporary" reclamation while the site is active, and then again when the well site is abandoned (which we have not yet seen happen and do not expect for decades). Normally the driller will use grass types and other vegetation plantings in the Field Manual that will quickly take root and grow and cover the ground and prevent erosion. However, those may not be the kinds of plantings you want on your land. Some types of grass may give problems to pregnant cows. In particular the State has a "wildlife mixture" it will approve. You should insist on this mixture (unless you have a pond or something else particularly vulnerable to sediment) or some other planting that you want.

The most important thing is that the papers require the driller to not just plant the right vegetative ground caver, but maintain 90% cover, and to take action to prevent invasive species in the area they disturb. In the past people have asked for a certain planting, and the next spring it washes away and the driller takes the position that they did what they were told and planted what they were required and does not maintain the planting. Or the land gets infested with invasive species and the driller says it is does all that it is required by preventing erosion/ siltation.

Groundwater.

Groundwater can be affected by drilling in two ways. Many people worry about frac fluid and gas migrating up from the Marcellus Shale or other formation being horizontally

drilled and getting into the groundwater above it. We find it is very rare for what is happening 5000 feet (500 stories) underground making it to groundwater or the surface on its own. We are pretty sure that most groundwater pollution happens one of two different ways.

The first has to do with how the well is initially drilled down through the layers of rock. Our website has a slide show on how a well is drilled and what can go wrong. {{https://wvsoro.org/gas-well-drilled-ground-can-go-wrong/}}} The most common problem is that something goes wrong when the driller inserts the cement in the well that is pumped in between the metal well casing pipe and the dirt surrounding into which the well bore was drilled. The most important "cement job" is when they cement in the surface pipe casing. When they are about to do that, they are required to call the oil and gas inspector so the inspector can make sure the cement "returns to the surface" and therefore completely seals in the pipe casing -- and if it does not what can be done to solve the problem. The WVSORO has a slide show on its website that explains/shows this. The slide show is only for a vertical well, but it is the vertical drilling/casing phase of a horizontal well that contains the risk to groundwater.

So require in the papers that when the driller calls the inspector to notify the inspector of the surface cement job, that you also get a call at the same time. This is not much to ask. Their only worry is maybe that the guy who is supposed to call you does not, and something goes wrong and you could make trouble. But it is an easy thing for them to do and important for you. You should go and watch too if you can. You may not understand what is going on but your presences will cut down the likelihood of them taking shortcuts with the cement job. You might be required to wear a hard hat, but you can go. And even if you do not go, the driller will be aware that you are paying attention and may not take shortcuts they would otherwise.

The second way that groundwater pollution can occur is when the driller leaks or spills oil or fuel or chemicals on the well pad. We think this is common. When that happens it soaks down into the water table. We think this is the most common cause of groundwater pollution. It is nearly impossible to get the nasty stuff entirely out. Many drillers use a pad liner to prevent the leaks and spills from sinking into the ground. But not all. So you should require it. If they do not want to do it, we would advise not to sign the agreement.

The State does require them to have a berm around at least the well pad part of the well site in order to prevent spills or just water raining down on the pad from washing drips and leaks etc. from running off the pad. But again the regulations are vague. Where does the water that is retained by the berm go? Studies have shown that water often rains in West Virginia faster than it can evaporate. It needs to be collected in a sump. And the water in the sump needs to be tested every time to make sure it does not contain chemicals or other contamination. And if it does, it needs vacuumed up by a "vac truck" and disposed of elsewhere. If it does not contain anything like that, say after a heavy rain at a time when there is no activity on the pad, it can be released into a drainage system that will not cause erosion. And if you have a pond downhill from the pad, you may want to insist on the sump being on a side of the pad where this will not come down the hill. And this is something you will want to check on as drilling happens -- along with the integrity of the berm. We have seen very poor maintenance of the berm.

Air.

We know the least about this issue. These huge pads do require a permit from the State that requires certain levels of air pollution prevention by the driller Still there will be some. Will there be more than the State even allows after treatment? Will the driller properly maintain and use the equipment?

We suspect the biggest problem is just leakage from the pipes and tanks, and leakage of methane is leakage of a powerful greenhouse gas. There is something called a "flir" camera that can visualize if that is going on.

We have heard there are subcontractors offering companies "green completion" for the drilling of wells. One expert says it is more expensive for them and not that much better. But if this issue is important to you, insist on it.

Certainly start with your nose. If you smell something or see something, call the DEP and complain.

Dust.

Except during actual construction of the well site, dust is an easy thing for the drillers to contain. It only requires wetting down the road etc. Put it in the papers, "The driller will take all necessary measures to prevent dust from settling on the surface owner's residence, buildings and crops and other plantings."

Plugging.

At the end of a well's useful life, it needs to be plugged. Not "capped", but permanently "plugged". The driller needs to pull out thousands of feet of un-cemented interior casing and fill the well up with special clay with cement "bridges" between some of the rock formations. If this is not done, the metal casing will eventually go bad and the unplugged well has a good chance of polluting the surface with oil, polluting groundwater with gas and surface and septic runoff etc. etc.

The drilling industry has been AWFUL at doing this. Right now there are 12,000 wells in West Virginia that the industry should already have plugged that have not been plugged that the State has not made the drillers plug. Of those, 4,500 have been around so long that the drilling company that owns the well is long gone out of business. As of the date of this document there is virtually no money to plug the orphans. The company landman you deal with may be nice, but the dynamics of the industry will cause it to happen. If the well is not abandoned by the company you are dealing with, then it will be sold to a different company that will milk what it can from the well and go out of business. That will happen to the wells they want to drill on your surface unless one of two things happens.

First the Legislature could pass a law that prevents future orphans from happening by requiring payments from the driller into escrow now while the well is making money to plug it later when the well is not making money. As of the 2019 session they almost passed legislation raising enough money to plug the existing orphans in 32 years. But nothing to prevent future wells, like the ones about to be drilled on your land, from becoming orphans has passed. So unless our website has news about that, this is not an option.

Second, note that the driller is required by law (West Virginia Code §22-6A-15(a) and (b)) to post a single well bond assuring the driller will comply with the law. The bond amount required for a horizontal well is $50,000. But that is for a single well. Unfortunately the Code in subsection (c) also allows the driller to post a "blanket bond" of $250,000 to cover *all* of its wells, no matter how many they own. The blanket bond is probably enough to plug 15 or 20 wells, but they own hundreds of wells! Go to our main page and type "orphan" in the search box, or for a quick summary look at this article in the State Journal.
{{{https://www.wvnews.com/news/wvnews/thousands-of-oil-and-gas-wells-in-wv-remain-unplugged/article_e829b9f9-0235-5ddb-8413-1b5d93926b49.html }}}

So we owe it to future generations and the stewardship of your land to require the driller to post a single well bond for every well it drills and further agree (this is also important) to require any future purchaser of the well to have a single well bond on each well drilled on the well site. It is important. The driller will complain. Ask him how the blanket bonding system is working so far. You can find out lots more about this slow moving, widespread environmental and property rights disaster on our website. So insist. It could be that the driller may have another idea to put money at the beginning of production into an escrow. That might work, but contact us because it is legally and financially complex.

FINANCIAL ASPECTS OF THE AGREEMENT.

Background.

The sums of money arising out of the drilling and production of gas (or oil) from a horizontal well site are way beyond your experience. We know the financial realities of one well site, the well site that gave rise to the West Virginia Supreme Court case noted at the beginning of this article. Over 30 or so years, that one well site with 9 horizontal wells will produce 1/3rd of a billion dollars worth of gas. Yes that was a "B". Over $300,000,000 worth of gas from just one well pad with nine wells. We are not sure – the liquids may have increased that number. And after those wells were drilled, the West Virginia Legislature passed "cotenancy" legislation. Some of the well bores drilled from that pad were shorter than they would be now because the driller could probably have used the cotenancy legislation to make them longer. And that was then. If those well bores were drilled today, technology has advanced to allow them to drill further into additional mineral tracts and be longer and produce even more gas. In addition, the *longest* horizontal well bore on that pad was just over 8,000 feet. According to an EQT press release, its *average* horizontal well bore that was going to be drilled in 2018 was over two miles,11,800 feet -- and that was in 2018, a year before this was written. So a well site today will probably produce more gas, like ½ of a Billion dollars worth of gas. It is important that you think like a wanna-be-wealthy Texan and not like a used-to-be poor West Virginian!

One negotiating advantage the driller has is that you are still not used to the large numbers of dollars at stake drilling a horizontal shale well. The drillers know that. And they also know that the dollars they can offer are to you are unexpected money in amounts you never thought you would ever see. So you are likely to be impressed and settle for what is a large chunk of change to you, even though the use of your land is worth much more to them than what might be hard for you to turn down or say is enough. Remember, you need to do your best to get the amount that is what the use of your land is worth to them and not you, and not what looks like a huge amount of money to you, but what is a reasonably proportional business expense to them for their multi-multi-million dollar project.

One up-front payment or smaller payments over time?

The point we made above about the industry wanting to do business as usual and not wanting to do what you want will apply to financial negotiations in particular. It will apply in spades to the driller wanting to pay one up-front payment for your land instead of agreeing to monthly, quarterly, or yearly payments. We think they wanted to make one payment up front because that number sounds big, but would be less total money than making smaller payments over the life of the well site. Also they say they worry about missing a payment and the consequences (but that can be taken care of with "right to cure" provisions in the papers). Also, they say to calculate what the payments over time could be is complex because the wells produce a lot more gas in the first three or so years of production than they do for the next thirty, so it is hard to anticipate what is affordable/economially sensible as a practical matter twenty years from now as a surface property lease/rental payment. But we think paying over time it is a

much better way to do things and if enough surface owners demand that kind of payment, then that can become the surface owner/industry "standard".

We think it is best to pay over time for several reasons. First, we think, as they probably think, that you will get more money in the long run. Second, we also think that over time the identity of the surface owner will change. And it is fairer if future generations or future surface owners who are enduring the well pad continue to get compensation. Third there are the income tax implications. A big chunk of money to you in one year may bump you up a tax bracket whereas taking money over the productive life of the well will make that less likely to happen. Giving tax advice is the last thing we want to do. But we can advise you to get tax advice. As one friendly Certified Public Accountant said, you should think about, and get advice about, taxation three times: When you are planning to get money. When you get the money. And when you spend the money. It can cost money to be rich like a Texan if you want to hang onto it!

Do not think or negotiate in "acres".

Land agents typically want to pay you by the acre -- so much money per acre multiplied by the acres they are taking. They are using that because they use that tactic to negotiate with mineral owners for payments for their leasing of the number of oil and gas bearing acres in a mineral tract. And when you know undeveloped land is West Virginia is not worth much, sometimes not even $1000 an acre, and they offer you a lot more per acre, it sounds like a lot. But when you negotiate by the acre, you are thinking in terms of what the land is worth to you for what has been or could be done on that acre by you. But their use of the land is valuable to them because it will produce gas from not just a few acres, but from square miles of mineral rights. (A square mile is 640 acres.) And a free market transaction should result in a price in the amount of what something is worth to the buyer (here the driller for a well pad), and not the seller (you the surface owner). In this case you are the seller and you want to get what it is worth to them!

The only time acres should come into the equation is when some of the property where they want to put their prosed well site is owned by you, and some of the acreage for that same well site is owned by a neighbor -- where there is a surface owner property line down the middle. Then you want to figure out what the well site is worth to the driller and divide that between you and the other surface property owners according to how many acres each of you is contributing to the well site. We always recommend coordinating with other owners. Otherwise they might move the well site down the ridge to a surface owner they have talked into charging less. Stick together and prosper.

What numbers do we know for sure?

Again, the driller should pay you what the driller's use of the land is worth to the driller, not what the land was worth to you before they showed up. We will start here with some numbers we know about that occurred before the West Virginia Supreme Court decided the *Crowder* case in favor of the surface owner.

In the *Crowder* case the jury awarded the surface owners $190,000. We were disappointed in that. We do not think the jury understood the "value to the company" arguments. Also Doddridge County is notorious for giving low jury awards just because they are not used to dealing in big dollars. You should clearly get a lot more than that.

We also know of a case where it is in the public record that the driller paid about $500,000. No doubt they were worried about getting the same ruling from the courts as *Crowder* got later and wanted to settle. But note that in that case the surface owner sold them the land instead of just giving a surface use agreement. But also note that was some years ago, and again, it was before *Crowder*.

We also know that when drillers negotiate leases they are willing to pay royalties to the mineral owner of anywhere from 15% to 18% of the value of the gas produced, sometimes with and sometimes without deductions for the expenses of getting the gas from the wellhead to market. Suppose for the property under you the lease amount was 17% instead of 18%. How much did the company save? How much more would a mineral owner have gotten from the company in royalties if the mineral owner had held out for 18% instead of 17%? The difference of 1% in the calculation of the royalty paid over time is $3 Million. Reduced to present value (what a person would need now to invest to generate $3 Million over time) for a one-time payment – that would be $1.7 Million. Bear that in mind as you read this article: If a lease negotiation term number could cost the driller or benefit the mineral owner by that much money, then the cost of the use of your surface is well within the driller's ability to pay you a substantial, Texas-like, sum. And in addition, if there are old conventional wells on the mineral tract under your land (or on neighboring surface tracts that are underlain by the same mineral tract) the driller may not need to get a new lease signed by the mineral owners. The driller may be holding the old lease "by production in paying quantities". If that is the case, the driller is only paying 12.5% royalty to the mineral owner and not 15% or 18% which that driller, or other competing profitable drillers, have to pay for new leases. Even more margin in their costs to be able to afford to pay you.

So we think the driller can afford to pay you a mere 1% of the value of the gas over time as the gas is produced over time -- and that would be a large chunk of money for you and future owners over time. The payments would go up and down with the price of gas and down as the gas well produces less over time. This method of calculation and payment avoids any questions the drillers raise about how to calculate monthly, quarterly or yearly payments that are equal for each month, quarter or year for the entire length of time of occupancy of the land by the well site. A payment that was equal for each period would look like a traditional rental or lease payment. But it is hard to figure out what the equal amounts of payments over time should be where the income from the wells, the value of the use of the land, declines drastically over the life of the use. So we think a payment of 1% of the value of the gas over time, a payment that will go up and down with the value of the gas produced, is very workable.

The kind of payment we are talking about looks like something that is often called, in the industry, a 1% "overriding royalty". Drillers typically pay these overriding royalties if a first lessee/company had already leased the land and a second company wants to take over that lease and be the one to drill on it. The second company pays the first company a 1% overriding royalty for the right to drill using the first company's lease. It still as to pay the lessor/mineral

owner its 12.5% or 18% royalty as appeared in the lease, and then pays the first lessee/company a 1% override.

The industry will argue against that the payment we are talking about for the surface owner not only looks like an overriding royalty, it is an overriding royalty, and royalties are only paid to the mineral owners. Your response is that these are word games. That is how you want paid and there is not statute or other law that we know of that says the surface owner cannot get paid 1% of the value of the gas produced no matter what word or words are used to describe it in an agreement. If they have not done it before, so what? Nothing says that cannot now and surface owners now have the leverage to insist upon it. We know of no tax consequences to the driller. When you get that you should again talk to a tax professional about whether you will get a "depletion" deduction on your income taxes.

What is the well site worth to the driller as a business expense?

We gave you some numbers above showing what they can afford. We have given you some numbers showing what they have paid in the past before *Crowder*. It is all new territory now and we know of no experiences after the *Crowder* decision, and the numbers should only go up!

What other numbers could help a surface owner decide how much the surface owner should get paid? Obtaining the right to use your surface for the well site is one of the costs to the driller of using a well site and producing gas. What are other costs and what are fair comparisons to those costs that should lead to a fair valuation of the use of your surface to the driller?

Note that we will make some assumptions based on educated guesses below. If you can get the driller to give you their actual numbers for the well site they want on you, that might be even better. Probably if the driller's numbers would show you should get more money than our estimates, they will claim that drilling is a competitive business and they cannot let those numbers out.

The first cost of the creation and use of a well pad for the driller is that the driller has to get leases from the mineral owners of the tracts to be drained from the well site. Most new leases allow pooling with units of up to 1280 acres in size. Some pads will drill wells into more than one unit, but lets stick with the assumption that the well pad will be used for one drilling unit containing 1280 acres found in new leases now. In order to lease that many acres in today's leasing market, the signing bonus paid to the mineral owners for just signing the lease can be up to $5000 an acre. Sometimes the drillers pay less than that for getting leases signed. But there is also a cost to the driller for the title examination work and the cost of sending the landman out to get leases signed. So lets say the drillers cost is $5000 an acre for obtaining the mineral rights lease. Multiply that by 1280 acres for one unit and the result is $6,400,000. Should the driller pay at least just 10% of the amount it cost the driller to get the mineral rights to get the right to use the surface as necessary to make a half billion dollars? Seems fair. That would be $640,000. And that is assuming that only one unit will be drilled from the well site and there are probably more units than that being drilled from the one well site.

Another fair comparison number to use to evaluate the use of the surface owner's land for a well site is to use the driller's cost to drill one horizontal well. It is widely reported, depending on whether cost accounting includes the geological investigation, the preparation of the well site, the engineering work for the permit applications etc., that it costs the driller $6 Million to $8 Million and even $9 Million to drill each well. What if the cost to obtain the surface in order to do that was only 1% of the cost of drilling the well? Just 1%! Lets use the $8 Million dollar figure. That would be $80,000 per well -- 1 percent of the cost of drilling each well. Eight wells on a pad would therefore be again $640,000, and more wells would be yet more.

This would lend itself to getting paid by the well as each wells is begun to be drilled, instead of one big payment up front. That would probably spread payments out over time a little bit. That might help the surface owner with income taxes. That would make sense to the driller who would pay more if the pad is used more and less if it is used less, and spread out its capital costs over time. This again emphasizes that it is the value to the driller that counts.

Another way to look at the drillers' business costs is that we understand they budget about $5000 per acre to drill a horizontal well. That means a cost, using our 1280 acre lease number for the drilling unit size, gets us back to that figure of $6,400,000, but this is a different six million dollars. The first six million was just to acquire the mineral acreage to drill. This is the cost of drilling into the acquired acreage which may or may not include the cost to get the leases. Again just 1% of that is $640,000.

And always remember our explanation about how much it would have cost them to negotiate a lease with the mineral owners that with one more % royalty rate. They can afford what you are asking based on any of these calculations above. And if you have any doubt whether you want to do this at all, or for less money, stick with that calculation.

Will they drill somewhere else if I am too hard-nosed?

When advising people on how much to charge the driller for using their land for a pipeline, we always advise people that a limiting factor on what the company will pay depends on what it would cost the company to go around the surface owner's land with a different route for the pipeline. It might take more pipe to go around one surface owner who is asking for big bucks, but if the neighboring surface owner wants less money, the pipeline company could be better off.

This is not quite so true for well sites. We point out that in our experience to date, the geologists and reservoir engineers tell the driller the best place to drill, and usually whatever expenses are necessary to drill there are accepted and paid because that is where the best recovery and most money will be made. It is easier to find a different place to put a skinny pipeline right of way than it is to find the best place to put a well site.

Though it is possible that a different nearby hilltop will work, or that they could even pull up stakes and drill in an entirely different area, we think very little weight should be given to the driller's threats when they tell you they will do that unless you agree to their amount of money.

So, how much should I get for allowing my surface to be used for a well site to be used for horizontal wells?

Above we have given you lots of numbers to consider and good reasons why these are good numbers to work with. In particular some of them are numbers relating to the reasonableness of what you could agree upon in relation to costs of the driller to put in these well sites and drill these wells.

Beyond that we cannot give you a hard answer -- for a couple reasons. First, every situation is different in terms of the driller's needs for your land, what the land means to you, that particular driller's costs, how big the well site will be, how many wells will be on the well site, how long the horizontals will be, the current price of gas and what it may be in the future when you read this.

Second, we have advised above that if you are willing to risk, or bluff risking, not having a well site on you at all in order to ask for our $1.7 Million dollar number above, you should ask for that. Maybe the driller needs your surface of the well site even more than is reasonable in relation to the other business expense of installing a well site and drilling its wells. Maybe they will pay you a premium up to the $1.7 Million now or a 1% of the value of the gas in payments over time. But they need your land and you can hold out to get it. The party on the short end of that kind of leverage calls it being "held hostage". Using that kind of leverage is nothing new in the oil and gas business, it is just that it has not been in the past that surface owners had that kind of leverage. With the abuses surface owners have suffered from drillers in the past, you should not pay attention to the name calling.

Finally, this is a new era, and particularly for that reason we are afraid of underestimating what the well site is worth to the driller/what you can bargain out of them if that is more. We wish the best for you.

SHARING EXPERIENCES

Clearly if we know more, then we could help people like you and others in the future even better. So please, if you get involved in a negotiation, we would like to hear from you after, or even during, the negotiations.

But be careful. In order to get the money from the driller, the driller may insist on a confidentiality clause in the papers you sign before you get the money. There does not have to be a confidentiality clause in the papers. Like the environmental and monetary terms, it is a matter of negotiation. We understand it would be a tough choice to take less money in exchange for them not including a confidentiality clause. (But maybe if you insist that if it is not there or there is no deal, you might get it without giving up any money.) And if there ends up being such a clause, you should read that clause carefully and not violate it. But still please contact us. There are lots of things for us to know about your negotiations short of the actual dollar amounts. What arguments did they use? What tactics did they use? And if you contact us before you signed the papers about offers and counter offers, you have not yet agreed to any confidentiality.

So please contact us and let us know about your negotiations and how things go.

And when you do get money, remember that WVSORO is a non-profit organization supported in part by donations, and we would appreciate your help.

And as always, if you have any questions, contact us at ! {{{https://wvsoro.org/contact-wvsoro/}}}

NOISE APPENDIX

[For technical reasons we had to make the Noise Appendix a separate document. Please also download and read it.]