

Pinedale Anticline Working Group

DRAFT Minutes

Pinedale Field Office, Pinedale

1625 West Pine

Rendezvous Conf. Room

1:00 PM, Thursday, September 25, 2008

In Attendance

PAWG Members – Robin Smith (Chair /Operators) , Cathy Purves (Vice-chair/Environmental), Scott Smith (State of WY), Nylla Kunard (Town of Pinedale, Paul Hagenstein (Livestock Operators), Jackson Schwabacher (Adjacent Landowner nominee)

PAWG Members Callie Domek and Chris Corlis are absent. As it stands, there is no quorum but the definition of a quorum was changed in the meeting.

PAWG Task Group Members – Therese Hartman, Pete Guernsey, Tony Gosar, Jocelyn Moore, Leslie Schwabacher, Daneka Ewert

BLM – Chuck Otto (Field Manager), Dave Crowley (BLM PAWG Liaison),

Public – Cally McKee, Kevin Williams, Mary Hogarty,

Meeting Minutes

Copies of meeting minutes from the previous PAWG meeting were distributed by email prior to the meeting and were available at the meeting. No changes were made to the minutes were suggested. Nylla Kunard made a motion to approve the minutes of July 24 2008 meeting of the PAWG. Paul Hagenstein provided a second. There were no objections and the motion passed unanimously. The minutes will be posted to the website.

Task Group Updates

Water Resources Task Group (WRTG)

The results of water resource monitoring were presented at the last WRTG meeting by the report authors. The reports included: “**An Assessment of the Biological Condition of the New Fork River, near the Pinedale Anticline Project Area in 2007**” by Brad Marshall of River Continuum Concepts, and “**Pinedale Anticline Groundwater Data Summary 2008**” by Heather Cole of the Sublette County Conservation District. The reports can be found at: www.blm.gov/wy/st/en/field_offices/Pinedale/pawg/DataResults.html or by searching the internet for “PAWG Water Data”

Jocelyn Moore, WRTG Chairperson, recognized the WRTG members present, Tony Gosar, Leslie Schwabacher, and Daneka Ewert and then outlined the reports presented to the task group and explained that one of the purposes of the WRTG is to review the annual sampling data from the Anticline. The Sublette County Conservation District (SCCD) is

responsible for conducting both surface water and ground water sampling. Surface water is sampled from the New Fork River and ground water samples are taken from all water wells within one mile of a producing gas wells. The SCCD and River Continuum Concepts have produced very comprehensive water sampling reports.

With regards to the surface water, there is one sampling site (New Fork 30) which has had problems in the past and the cause of which is still unknown. The report shows that sedimentation is still ongoing at this location. This problem was discovered by the presence of a specific aquatic invertebrate worm which prefers degraded environments. Brett Marshall, the author of the biological condition report, indicated that under normal conditions one would expect to see this worm comprising about 5% of the macro-invertebrate sample but at the New Fork 30 it constitutes 50% of the sample. Beside indicating an ongoing erosion problem, this worm can be a vector for whirling disease and may impact the fisheries of the New Fork River and Sublette Co.

As a result of the monitoring studies, the SCCD decided that an additional site should be added to the sampling strategy and selected as the baseline inventory location. This is because the current baseline site at the headwaters of the New Fork River(NF1), is too pristine to be used as a comparison since it does not take into account other impacts and additives to the river before it reaches the Anticline, such as ranches, houses, lawns, roads, the golf course, etc.

With regards to the ground water, there were 220 wells sampled from the summer of 2007 to the summer of 2008. Fifteen (15) of those wells had detections of hydrocarbons and nine (9) wells were not sampled because of a safety hazard due to a lower explosive limit (LEL) alarm. The LEL is detected by an air 'sniffer' placed into the well bore which reads the air composition within the well. If flammable levels of gasses (usually hydrocarbons) are detected the well is considered unsafe to test and the testing process is terminated.

The LEL alarm is an important safety procedure. However, those un-testable wells essentially receive a "free pass" and are not tested again until the following sampling period. Even though the BLM considers these water wells to be out of compliance there is nothing specifically written in the sampling plan which outlines what must be done, either by the operators or by the SCCD, to return to that well and get a sample when an LEL alarm prevents the well from being sampled on the first try.

Robin Smith asked if those wells with LEL alarms are located on active producing locations and if the air near the surface of the pipe causing the problem, or if the sniffer is lowered into the well and the air inside the well is tested. Jocelyn indicated that all the wells sampled were within at least one mile of an active or proposed gas well but did not know if the air at the surface could be the problem. Cally McKee indicated that most of those wells are located on active producing well pads.

The WRTG provided a map of the water wells indicating which were sampled and the status of those tests. Included on the map were wells with no detection, wells with detection below standards, wells with detection above standards, wells not tested because of LEL, and plugged wells, some with hydrocarbon detection and some without.

Jocelyn Moore indicated that there were seven wells plugged and one of those had a detection of hydrocarbons. This was a concern to the WRTG because by plugging those wells, those seven data sampling points have been lost. According to the operators, the State Engineers Office required that those wells be plugged because they were drilled a long time ago and do not meet current standards.

Robin Smith asked if all water wells that tested positive for hydrocarbons were industrial supply wells. Leslie Schwabacher answered that one livestock tested positive for hydrocarbons and it is very close to her BLM grazing allotment. Leslie indicated that she had talked to the well owner about the detection. The owner said that it was an old well that had recently been re-entered to install a new pump. According to the SCCD report it had been tested twice before the new pump was installed with no detections. One part per billion of toluene was detected in the well after the pump was installed. This is well below the maximum allowable level of BTEX for DEQ drinking water standards. Chuck Otto said that he had spoken with Mark Theisse (WY DEQ) about the detection and Mr. Theisse thought the hydrocarbon detection was most likely a result of the new pump installation.

Leslie Schwabacher added that more testing is necessary to prove that. Additionally, when she contacted the well owner, the owner had read about the well in the paper but was unaware that it was his well and she thinks that there needs to be more communication between BLM, SCCD, and the affected parties. Chuck indicated that since the turnout and use date for that allotment was not until next spring, we would gather more data about the detection before an alarm was raised but that in the future we should contact the permittee as well.

Robin Smith indicated that he would like to see a recommendation from the WRTG to the PAWG to improve communication about hydrocarbon detections. Jocelyn Moore followed up by reminding the group that the ROD requires water characterization, pollution prevention, monitoring, and mitigation and that hopefully communication would improve as the BLM and Operators develops the plans and requirements in the ROD. The WRTG would have to meet to evaluate how the new ROD processes would impact existing monitoring programs.

Jackson Schwabacher asked about the possibility of water from contaminated wells moving through the aquifer to other stock. Jocelyn indicated we really don't know where the aquifers are, if and how they communicate with each other, which way the water flows, and if putting a gas well through an aquifer can cause contamination. Jocelyn added that according to WRTG member Dr. Michael Kramer (WRTG) small levels of "allowable" contamination can add up to make cumulative contamination impacts that may exceed allowable levels. Leslie Schwabacher pointed out that the preliminary research shows that the New Fork River accumulates water as it passes through the Anticline, but it is yet not certain how exactly the water flows.

Jocelyn Moore then asked Chuck Otto about the requirement in the ROD (p29) that states: "Within 3 months of the signing of this ROD, the BLM, the Operators, WDEQ Water Quality Division (WQD), and EPA will develop an Interim Groundwater/Aquifer Pollution Prevention, Mitigation and Monitoring Plan and funding strategy to initiate groundwater characterization efforts and augment existing monitoring plans as necessary" and if this is considered to be aquifer characterization?

Chuck Otto said that there are two separate actions; the Interim pollution prevention plan and the funding strategy to initiate groundwater characterization. We can make sure that the groundwater characterization includes the general aquifer characterization. The plan needs to be done within 3 months, as well as the funding strategy for the characterization efforts. I would hope we could have the analysis done within a year but we would defer to the experts on that timeline.

Jocelyn Moore said that the WRTG would like for the PAWG to consider including an aquifer characterization as a recommendation to BLM to be included as part of "step 2" on page 29. Also a suggestion from the public was raised about the possibility of someone doing a trend analysis to look at the water and water well data over several years instead of just one year at a time. In other words, help the non-technical members of the task group understand the

reams of data presented to them. Chuck Otto said that would be very appropriate. We have a hydrologist in Rock Springs and we might be able to ask SCCD to pull out obvious trends.

Paul Hagenstein asked if there was any correlation between wells with detections and the depth of the wells and we should look at the well depth so see if there is a link. Jocelyn Moore indicated that she was concerned about that as well because of the static water level at 20' below ground could be running across contaminated wells and into the New Fork

Paul Hagenstein asked if all water wells are logged. Callie McKee indicated that all of the wells drilled have logs which record the depth and the stratigraphy and those data could be extrapolated.

The group then discussed how water wells are drilled, cemented and protected from the surrounding groundwater. Robin Smith and Kevin Williams explained the water well drilling procedures and described how the well is cemented and cased to 500' deep and they were required to plug any wells not cased to 500' and report all volumes of fresh water used in the drilling process and taken from the well. Kevin also clarified that recycled water is only used for fracing and fresh water must be used to drill and case all wells, gas or water, through the aquifer zones. Daneka explained that all disposal facilities are regulated by the DEQ and are under at WYPDES (Wyoming discharge elimination system)

Cathy Purves asked if there is a written formal plan for water quality sampling and has the sampling rate increased? Jocelyn Moore indicated that there is a formal plan which the SCCD has been using since 2001 and in which the WRTG has been involved since 2003 and there has not been an increase in testing. Each well is tested once per sampling period. Cathy Purves is concerned with the number of additional wells to be drilled and asked if increased sampling frequency is something we should consider. Callie McKee reminded that group that there will be many new gas wells but not many new water wells. Chuck Otto indicated that the ROD puts a moratorium on any new water wells on BLM land on the Anticline.

Robin Smith asked if they only sample 10% of each well as they had in the past. Jocelyn said that they used to sample only 10% but as a result of requests from the public that number was increased to 100% of all water wells within 1 mile of a gas well.

Robin Smith asked for a clarification of positive tests. Jocelyn said that there were 15 positive 'hits' this year, with 9 not tested due to LEL. There were 6 positive 'hits' in the last sampling period, with 8 not tested due to LEL. Jocelyn reminded the group that a positive detection of hydrocarbons does not mean that the wells have exceeded the allowable level of contamination.

Robin then asked how many of the wells tested positive this year also tested positive last year. Jocelyn said that one of her main concerns is the data trend analysis. Robin said that a trend analysis is very important now that we are having detections. Data collection is important but almost useless without trend analysis.

Chuck Otto said that BLM could commit to trend analysis for the PAWG.

Robin Smith asked what happens when wells have positive detections. Jocelyn said that the wells enter the Voluntary Remediation Program (VRP). Daneka indicated that the operators are continually looking at their operating practices and possible contaminates, and we don't need to be alarmist because the detection levels are very low, below allowable drinking water contaminate levels. Detection is not synonymous with contamination. The stock well which had detection of toluene did not test positive for total petroleum hydrocarbons (TPH). It is only because the lab accidentally ran a more sensitive test that the toluene was discovered. Those levels of toluene could be found in 'pipe dope.'

Tony Gosar asked about possible contamination from older wells and reserve pits. He suggested that we should sample around pits and pads, not just water wells.

Jackson Schwabacher indicated that looking at the map there are about the 220 water wells which were sampled and about 4% of which had hydrocarbon detections. Who is responsible for cleaning up the detected wells? Chuck Otto indicated that DEQ is responsible for water quality, the Wyoming Oil and Gas Commission is responsible for water volumes, and the BLM is responsible for the surface components. The operators enter into agreements with the DEQ to clean it up.

Robin Smith then said that he feels the process of monitoring and testing is working and while he doesn't like the hydrocarbon detections, hopefully we can get to the source or the contamination and he is encouraged to see what BLM included in the ROD

Paul Hagenstein then said that there is no baseline documentation and without it we are just going to flounder. Chuck Otto responded by saying that the study and monitoring required by the ROD will become baseline data. Leslie Schwabacher asked about historic water data. She knows it exists but since SCCD did not collect the data, it is not easily accessible. Jocelyn Moore indicated that Geo Matrix looked at many different data sources, but not all. There is water data from about 30 years of water sampling data taken by Western Wyoming College from 351 south to Farson and the University of Wyoming has old water sample data as well. Tony Gosar said that there are many groups around the state that have taken water quality data and many more are trying to characterize the aquifers around the state so there are many resources available.

Jocelyn indicated that the WRTG had recommendations for the PAWG at this meeting and will report back to the PAWG with additional recommendations at the next meeting. Paul Hagenstein expressed his frustration at the repeated absence of PAWG members preventing a quorum and the ineffectiveness of the PAWG as a result. He asked if we could reconsider the definition of a quorum. Many people expressed consent.

Paul Hagenstein made a motion to declare a quorum with five members present.

Scott Smith called for discussion. He proposed that the PAWG could be more efficient if we could get meetings minutes and recommendations from Task Groups immediately after the TG meetings and before the PAWG meeting so that we could be familiar with the recommendations and act on them as soon as possible. Jocelyn Moore said that it could be done and Paul Hagenstein agreed that it was a good idea.

Nylla asked if the charter prohibited the PAWG members from declaring a quorum. Dave Crowley responded no, there is nothing in the charter that specifically prohibits members from declaring a quorum. Robin indicated that the Federal Advisory Committee Act (FACA) defines a quorum, he thought that 2/3 of the group .

The Group had a discussion about the legality and possibility of forwarding recommendations to the BLM with only the votes of present members, perhaps 2/3 of active seated members, or recording the vote of present members and contacting missing members for their vote. Chuck agreed that the BLM could accept the recommendations of the 5 present members and follow-up with the two absent members to get their opinions about the vote.

Paul Hagenstein amended his motion to get the input of the members present and how they feel and relay that to the BLM. There was no further discussion. Cathy Purves offered a second. The motion passed unanimously.

Now the PAWG considered the recommendations of the WRTG. The recommendations are as follows:

- 1) That the BLM will include aquifer characterization in the Interim Ground Water Pollution Prevention, Monitoring, and Mitigation plan (ROD Section 4.2 Page 22)
- 2) That a BLM hydrologist or other qualified person will prepare a water well testing overview to be presented in layman's terms to the WRTG and PAWG. The overview will focus on result patterns of water wells on the Anticline that have had hydrocarbon detections.
- 3) That a BLM hydrologist or other qualified person will review the drilling logs to let us know about the stratigraphy and areas of permeability in those water wells that have had hydrocarbon detection.

PAWG Tour Discussion

The Group deviated from the agenda to discuss the PAWG Tour. The group discussed what locations they would like to see and what issues they are most interested in. Requested stops included air quality monitoring stations, the river corridor NF30 sampling site, and a liquids gathering facility. Try tour anticline disposal facility. Kevin William offered to lead the tour on Questar's standard public tour route and any other stops would be finalized with on Friday Morning. All agreed that Kevin's tour plan was comprehensive and would suite the PAWG tour well. Many thanks to Kevin Willams.

Task Group Updates

Wildlife Resources Task Group (WLTG)

Therese Hartman, Chair of the WLTG, reported that the WLTG had been dealing with fisheries issues for the past two meetings. Because fisheries and water quality issues are so similar, the WLTG is working on a recommendation for joint meetings with the WRTG. This would allow for better coordination, consistency in recommendations, and would prevent overlap between the groups. The WLTG is also working on developing recommendations for ways to measure and evaluate the wildlife matrix requirements in the ROD.

Therese reminded the PAWG that the WLTG had distributed three documents to PAWG members for review; Englefinger's Sagebrush Obligate Passerine Study, Joel Berger's 2007 Pronghorn Study and 2006 Mule Deer Study.

Robin Smith called for review and discussion of the three studies. After a review period, discussion began with the WLTG Pronghorn Recommendations. Robin Smith wanted to confirm that some of these recommendations were included in the ROD. Therese Hartman confirmed that. Paul Hagenstein wanted to ensure that the pronghorn studies are continued especially given the extreme variation in weather and sagebrush condition over the sampling years. The variability can negatively affect the validity of the studies. Robin asked if the studies would continue. Therese indicated that the WLTG is recommending continuing the studies and have additional recommendations based on the matrix. Scott Smith offered that this study was schedule to end in 2009 and a new study would have to be initiated. If the funding is not continued they will not collar any new animals but continue to monitor until 2009. That part of the study would end and a new study could be designed which addresses the components in the ROD and corresponds with the mitigation matrix. These new studies could be designed in ongoing phases. Therese offered that if this monitoring is part of the matrix it could be funded out of the Anticline Project Offices but there is a certain amount that will be funded by the operators.

Robin Smith then moved the discussion to the Passerine report. Therese Hartman stressed these recommendations are either in the ROD already, or tied to the ROD mitigation matrix. The passerine monitoring must continue through the life of the field, or at least full field development. Scott Smith asked for an explanation of recommendation #2 for the benefit of the group. The recommendation is for the development of an Avian Protection Plan (similar to the Jonah Field Avian Protection Plan). The plan would provide a handbook of how to proceed with mitigation response to bird issues, deterrents, etc. It would be more complicated than Jonah but we could use the Jonah APP template.

The discussion proceeded to the Mule Deer Study. Cathy Purves asked about the citation process for closed roads in the winter range and how the BLM can enforce multiple citations and violations. Chuck Otto indicated that repeated actions by a company could result in severe penalties. Pinedale has a Law Enforcement Ranger to enforce the closures. There was no further question or discussion on the recommendations

Robin Smith moved to accept the WLTG recommendations and forward them to the BLM. Paul Hagenstein offered a second vote. The vote passed unanimously. Therese will make small changes as discussed and forward them to the PAWG. The WLTG passerine, antelope, and mule deer recommendations are attached to these minutes as an appendix.

PAWG Quorum Discussion

After consulting the FACA charter, the GSA website, and other FACA Group Charters, David Crowley offered a discussion on the definition of a Quorum and asked if it was possible for the Group to amend the charter for that reason. Chuck Otto said that the Charter would have to go back to the Secretary of the Interior for any amendments, but we have already come up with a simpler solution. Since the GSA defines a quorum as half-plus-one, the intent is to have a simple majority. For the PAWG a simple majority would be five of nine members. All members agreed with this reasoning and so the PAWG officially had a quorum of five members for this meeting

ROD-PAWG Discussion

In the ROD, the PAWG will continue to be an advisory group to the BLM and a mechanism for sharing information with the public and interested stakeholders. The BLM will evaluate the PAWG annually and will be continued as necessary. The PAWG will also work closely with the Anticline Project Office. There is a lot of monitoring and mitigation requirements. The reason for the PAWG has not disappeared and the PAWG remains an important tool for the public and the BLM. We need to have public and community representation to make sure we do what we say we will do. We have wildlife, water, air, cultural resource to monitor and we are asking for a transportation plan, develop mitigation and monitoring plans and start them all now. The BLM has already asked the operators for their 10 year and annual plans. Those plans will be provided to the PAWG and the PAWG task groups to foster public communication.

Other Topics

The water quality task group has been discussing a 'produced water group.' The transportation group has discussed a similar thing because the produced water was being transported throughout the county to ensure that disposal capacity could handle production capacity. There is great concern that more water is being produced than disposed of and that it is being dumped illegally. Robin Smith thinks illegal dumping does happen but not often and that this is primarily a data issue. The correct numbers are out there but it is difficult to compile them. A discussion of water disposal and produced water continued. The discussion will be continued at the next meeting. We will call water resources DEQ and State Engineers Office to see how they track disposal.

Nominations

The BLM has submitted Jackson Schwabacher, Nylla Kunard, Cathy Purves, and Paul Hagenstein for nomination to the PAWG. Jackson is a new member and the others are incumbents. The nomination period has opened for the Sublette County and Oil and Gas Operator Positions. We have received a nomination for Bart Meyers from Sublette County. The period closes 30 days from today.

Other Projects – Chuck Otto provided brief project updates and descriptions

Anticline Project Office

Cimarex public scoping meeting will be held in Marbleton on September 26th.

Greater LaBarge Platform - EIS for a 640 well gas field expansion by EOG

NPL – Non pressurized lance field south the Jonah will drill 85 wells.

Aspen restoration projects are occurring in the Wyoming Front with a controlled burn underway in Maki Creek, next year will be red canyon followed by Camp Creek

ROD implementation is underway. We will be meeting with state and federal agencies in the next few weeks

The document is in the public protest period. We hope to have a decision by December

JIO Projects – Cross Lazy Two, Wildlife Friendly Fencing, vegetation inventory, Sommers Grindstone Easement, MJ Ranch

Public Input

A question was submitted by a member of the public who was unable to attend the meeting, Bev Sharp, about whether we should be sampling water around reserve pits, well pads and facilities. A casual discussion ensued. Jackson Schwabacher said that ground contamination is often found in plumes and hydrocarbon detections at water wells may require additional sampling. Leslie Schwabacher worried about ripped pit liners and suggested we should sample those locations. Daneka expressed frustration with the multiple authorities who manage the gas fields and the lack of jurisdiction over the reserve pits. Robin Smith indicated that the operators are supposed to permit their reserve pits through the WYOGCC. Jackson pointed out that in other states there are closed loop systems which separate solids from liquids in the reserve pits and wondered why they are not used up. He followed up with a question about drilling a well and if it can contaminate an aquifer as it passed through ground water. Jocelyn Moore asked if reserve pits could be address in the groundwater pollution prevention plan. The discussion continued without resolution

Another question was raised by a member of the public who could not attend, Carmel Kail, about air quality figures in the ROD and what they meant. I could not answer MS. Kail and will have to discuss the question with Jennifer Frazier and Paige Smith. We will hope to schedule an air quality task group before the next meeting. There was little additional discussion about this issue.

Cathy Purves then summed up the major issues as a result of these discussions: monitoring and testing remains a weak link on the Anticline and more needs to be conducted by BLM or contracted out, the actions of sub-contractors are not well regulated by primary operators and sub-contractors need to be well educated about proper practices and closely watched, the agency responsibilities regarding authority over air quality and water quality permitting, regulation and enforcement needs to be clarified and strengthened, and the disposal pits at well pads are a large 'black hole' that needs to be addressed with regards to water and air quality.

Leslie Schwabacher asked the question about how we can proceed to act on the issues we identified in these discussions. We talk but we need to act. Chuck Otto informed the Group that the PAWG can make recommendations to the BLM without Task Group input if they so choose. That can be a means to being working on the issues that were raised during PAWG meetings.

The discussion then continued to the water wells with alarms and ripped pit liners recorded by the water samplers. The Group wanted to know what will happen to fix the situation. Chuck Otto indicated that he would like to ensure that the wells that are not tested because of the LEL alarms are returned to and tested within that sampling period. The BLM will get with the operators to ensure the wells are tested.

Chuck stressed these were all important issues that the PAWG and BLM could address. The PAWG is an extremely beneficial group to have. Sometimes we may hear things we don't like, but if there are problems out there, we need to fix it. We want this group to succeed and Chuck doesn't want to hear a year from now that the BLM is not doing what they said they would do. We have great intentions and we really do need to follow through with them. The PAWG and the task groups are one way that we can ensure we do have follow-through.

Robin Smith then made a motion to adjourn and Paul Hagenstein offered a second vote.

The motion was approved unanimously and the meeting was adjourned.