

EAO2

From: Heidi Klein [hklein@gartnerlee.com]
Sent: Tuesday, September 18, 2001 11:12 PM
To: EAO2@mveirb.nt.ca
Subject: very draft questions



IR minutes2.doc

Joe,

Here are the draft questions. Not the whole note. I know you wanted this in a hurry. They need further cleaning up. Anyway, you can send this out for comments. It should be noted that people should focus on the question and not the answer. Paramount will have to provide written responses.

I hope it is okay but you will have to get it out. I absolutely cannot do it tomorrow. The attendees are listed at the top of the note.

Heidi

In attendance:

Name	affiliation
Heidi Klein	Gartner Lee Lmt
Joe Acorn	MVEIRB
Brett Hudson	GNWT
Anne Wilson	DOE
Shirley Maaskant	Paramount Resources (P)
Brenda Becker	DIAND Lands
Lloyd Doyle	P
Neil C. Kelly	P
Art Flaws	P
Constance McIntosh (phone)	Mandell Pinder Barristers and Solicitors
Jason McNeill	GNWT
Al Gibson	GNWT
Ranjit Soniassy	DIAND Water Res
Charlene Coe	DIAND
Dave Fox	DOE
Ken Brink	Golders
Martin Rawlings	P
Daryl Johannsen	Golders
Frank Lepine	GNWT, Forestry
Allan Julian Landry	Kakisa Manager Resources
Robin Johnstone	De Beers Mining Inc.
Marie Adams	DIAND
Greg Cook	DIAND Water Res
Chris Spence	DOE

Physical and Biological Environment

Air Quality and Climate

1. Environment Canada; David Fox

Supplemental information to earlier June 25th Information Request. These questions had already been put to Paramount and Paramount is preparing a response.

NO₂

Q. Explain the results of modelling NO₂ at 25 ppb and 50 ppb. The data provided would indicate more oxidation at 25 ppb rather than 50 ppb. Please explain how at higher ppb the oxidation is less than at 25 ppb.

Please provide copies of your input-output models. Also provide the plots ran not just the maximums.

A. Answer in brief already provided by Martin Rawlings

A letter of clarification is being drafted. The differences result from doing calculations on individual plumes rather than collective plumes.

- way in which AB and use on east Liard, individual plumbs vs. collective plumbs, series of results to clarify.

2. Ozone levels

Q. Ozone levels in Yellowknife are not good reference points. It would be better to use values from Alberta. Ozone levels are greater in mountainous areas. The evaluation should be run with references from mountainous areas. Also provide the electronic files and input-outputs that were ran.

3. Voluntary emissions registry

Q. Paramount is a member of the voluntary emissions registry. Are these greenhouse gas results being included in the registry.

A. Yes.

The following questions were put to Paramount by Al Gibson from the GNWT, David Fox of DOE and Constance MacIntosh of Mandell Pender. These questions were first put to Paramount on June 25th during the preliminary screening process. The MVEIRB will need to confirm that this information is on the public registry for this environmental assessment.

4a. Flaring

Q. The composition of gases from A73 was used as the reference point for the worst case scenario. Is this really the worst case? Have you run gas analysis on the other well sites? Can Paramount assure that A73 is the worst case scenario?

A. Paramount can monitor all the wells once they are drilled. We will apply Alberta and federal standards if the analysis varies from expected. We will apply whatever regulations are in effect. Until we have new results, A73 is the highest sulphur content we have. We will remodel if we find a sulphur content in excess of predicted.

DF-Follow up (to AG), new modeling work, If there is a change of sulphur content will you re-model (asking P).

NK-If its worse, ya we will remodel (even a little worse). Can we establish the max, on site composition, fall within. Gas analysis, if every time we have to re-run it.

AG-backtrack how well.

MR-One or two runs, to reach whatever the standard.

4b. Research studies

Q. At the university of Calgary, flaring studies are being undertaken. Are you aware of them? Were these considered in your analysis?

A. We are familiar with the studies. The results of those studies were not used. They are preliminary. In our analysis we used the worst case scenario as known.

Q. Will Paramount commit to making retroactive changes if these studies indicate a need for more conservative measures?

A. Paramount will comply with the requirements of the law.

Q. Will Paramount set up SO₂ monitoring stations?

A. Yes. Put in 2 stations. May have to move them around to make sure they are located properly.

Q. When calculating flare heights, did you use the Alberta excel package or did you do the calculations yourself?

A. We did the calculations ourselves.

Terrain and Soils

5. Rutting

Q. In the EA report, you indicate interrupting work when there is 30 cm of rutting. How did you chose that depth? (Brett Hudson)

A. 30 cm is an arbitrary figure. The top 75 cm is organics for much of the route. The intention is to work under frozen ground conditions. This is explained in the Operations section of the EA.

Q. If there is rutting, when would the restoration take place so that ponding does not occur?

A. We would do that in the winter. Summer access would cause more disturbance than winter. Much of the area is wet. The first action would be prevention of rutting by ensuring frozen ground. Remove snow to let frost get into the ground. Common knowledge winter access, take away insulation, frost in the ground. Dry year, moss organics are dry, in a wet year no impact to environment and soils below, better to have a wet than a dry year.

Comment by Alan Landry. What if the whole winter is mild like last year and there is considerable rain. The top will freeze but not the bottom. Things cannot be predicted. In some of the little valleys there is 4 ft of water. The ditches are full of water that will not drain this time of year.

A. Paramount responded by saying the intention is to be early in and early out. If there is rutting, we will cease work and have a action plan to work around it.

Vegetation and Plant Communities

6. Revegetation

Q. Why is Paramount planning only to reseed high erosion zones? What will be the intervention? This relates to an IR response to the NEB. (Constance MacIntosh)

A. Seeding can lead to competition that is not a benefit to biodiversity. There is no erosion potential on flat areas. Areas will be reseeded to Canada #1 seed that will be inspected for weeds.

We considered the revegetation that has taken place on seismic lines, air strips, and roads between Indian Cabins to Bistcho and Hay River region before deciding on need to revegetate or not.

NEB IR, slope is important, designed in overall construction practices, talking with elders, water quality protection in mind, measure to protect.

Q. Can we have the scientific names for seed mixes IR what is invasive or persistent? Fox tails etc, not carried in?

A. Yes. To prevent invasive species the equipment will be cleaned off at Indian Cabins leaving main highway and heading north. We cannot prevent bird droppings and right of ways attract birds. Reseeding actually attracts birds. Will use sterile wheat grass to prevent erosion and protect against loss of biodiversity.

7. Wildlife and wildlife habitat

Q. Question directed at Ken and ? of Golders (Alan Landry). What are their views on habitat and wildlife.

A. The area is reach, certainly, Tatlina Lake has many species of birds and wildlife.

Q. What did you see?

A. We saw a bear and Eagle nest, a wolf pup, quite a few ducks, geese, moose tracks, king fishers, beaver lots of activity.

Q. What do you think about what the people are saying about the land?

A. I have a draft report, in it I stress the rich value of the area for hunting and trapping. How the people feel about going there and enjoying the land. There are a variety of berries, fish in the lake, an overall rich area, that is in my report. The report I need more info from the Band on your studies, your Chief said we can incorporate your information.

Q. AL-Right now, Thursday we started Community TK called straight from the Heart, over generations of land use, hoping to gather info, 1 to 2 months, our own EA, what we see development impacts, oil and gas and forestry, fish habitat, Tatlina lake the pickerel habitat has dropped. What our people see in the future if a project of this magnitude ends. Cameron Hills, noise, now only a plan, what about choppers, planes going in, we understand there will be development. Minimize how it will happen, and keep what we want the way they are, development in stages, not a 200 man camp, 60 some odd vehicles. Benefits to the north. What is written here

we thought of all that. If we were to make a decision, we are not comfortable with the project. Always playing catchup. Reading from the letter/fax of HK (p 9-10) DIAND. We want everything removed. Why leave it? Money to put it in, take it out. All kinds of way to make work. All ways to make money.

DJ-Their questions and NEB, we responded to that, did it make it to the Board from the EA process. NEB IR, related to proposing to leave pipeline to minimize disturbance. Common industry practice to leave it in place.

KB-Rich biodiversity, neighbourhood of 20 km from P wells. We were at around Tatlina Lake, 20 Km from Camerons, declines of fish due to commercial fishing. Watershed issues are important.

AL-quotas, decisions made outside, Cameron River leads into Tatlina. First Nation occupies and uses the land.

DJ-Retreat with Chief and elders we took the plane and flew up to Cameron hills from project to the mouth of the lake, we asked how far they boated up, rapids, un navigable, fisheries habitat, depends on conditions, trying to get the perspectives of long time elders and relate that information to land use. Talking about how we use the land.

8. Electricity vs gas at well sites

Q. Please discuss further your decision making behind choosing gas or electric use at the well, what is the comparative analysis of disturbance to the environment of the different choices i.e., habitat disturbance, noise, emissions? That is, pros and cons?

A. It is strictly economic. We won't know if it will be fuel gas system or electricity at Battery and then distributed to each well. We don't even know how many wells we will have. There has to be a threshold and we ask what economics works the best, cheaper the source may also compromise on reliability. Electric is 100%, casing gas is less reliable, gas is expensive, trade off depending on the number of wells.

Q. Will you need the entire 30 metre right of way regardless?

A. No. Will only need the entire right of way if we go for electricity to accommodate the poles.

Q. Will there be electricity only at the wells?

A. There will be electricity only at the wells. Oil wells L47, C19, B25 not practical to run fuel gas, probably casing gas. The battery will be fuel gas or electrical.

Q. Electricity will require more right of way clearing, but there are also down sides to fuel gas (economic versus ecological issues)?

A. Electricity will take up more real estate. but there is more noise. Power polls attract ospreys.

Q. There are trade-offs with both options. Please provide a bit more analysis under either scenario.

Water Quality and Quantity

water quality impacts including contaminant loading and dispersion (including surface runoff and airborne contaminants)
water quantity impacts

9. Flooding and bank width

Most of this conversation was with Chris Spence.

Q. The 1:100 year flood recorded for water crossings indicate errors in the methods applied. The vegetation would suggest that the bank width is greater than recorded in the EA. It would appear that for some of the smaller streams the bank full width is underestimated, flood plain is closer to bank full width, the whole riparian will flood each spring, can be seen in vegetation. Velocity can be calculated and you take 1:100 year flood, sometimes your velocity is 10 m/sec (gravity). Suggesting you re-evaluate stream crossings at least 6 of them were not done correctly. Can you quantify error with a 90% assurance?

A. Every crossing was looked at with calculations and field measurements. We will look at the 6 measurements. Some of the drainages are hard to find, depending on rainfall things will change. Geomorphologists are looking for that.

We asked elders about flooding. They indicated nothing above and beyond

Q. What are the problems with tying the pipeline to the bridge? Are there issues related to the bridge being washed away.

Q. How will the sewage in the camp be managed?

Q. Has water modelling been undertaken for the Cameron River?

A. No gauge available on river. No metering, so calculating through good estimates?

Aquatic Resources and Habitat

DFO questions tabled and briefly discussed. No new questions arose.

Wildlife and Wildlife Habitat

10. Caribou, yellow rails, species clarification and habitat

Q. Have you prepared a caribou protection plan as in Alberta?

Q. Were yellow rails observed or suitable yellow rail habitat? It is a COSEWIC listed species.

A. There is good Yellow rail habitat. We will get clarification on that.

Q. Clarify why in the EIA 69 species are mentioned but only 39 listed. List those not shown. Clarify what was observed.

Q. Would it be possible to get a copy or reference to the 1992 Semjanuck paper?

Q. Why was information from the Ft. Liard work not included in this study?

A. The habitat is different, more bogs, open black spruce. Very few parts are similar.

Q. We would like to see consideration of U of A student, Fleming's work, effects of pipeline on northern boreal forests bird populations. We will give you the reference.

A. Okay. We are not familiar but will follow up.

Q. The construction will be winter, why only sample wildlife in summer?

A. Consideration given to determining, reclamation based on habitat protection. Habitat most stable, changes less quickly, to maintain biological integrity, routing pipeline on existing pipelines, etc. No samples in all four seasons and all species. We did habitat, quantified, ranked, vec s, overall use of habitat, used habitat for using it.

11. Ditch plugs and windrows

Q. During construction, how big is ditch plug, windrow and appropriate interval?

A. NEB suggest 7m break every 130 m, GNWT suggests 10m break every 500 m and at recognized game trails. Facilitate larger species while construction is happening. Wildlife on the right of way and a break. Construction personnel instructed not to follow wildlife. Ditch plugs every five metres.

Frequency of open ditch is rare. Extreme event. Rare.

JM-Regular basis making the breaks. Copy request of table 3.9 and 5 no time frame listed, date it. And provide us with wildlife logs for drill sites.

NK-Yes, we have nothing prior to last year but we do keep em.

JM-Ranking system in table 3.11 and 3.7 similar thing for

DJ-We only looked at the right of way impacts. Ranking definition of high habitat in region, for all species, Hay river valley, marshlands, trees, mosaic, high habitat for several species, comparison no based line survey work from RWED and AB, something to compare with that is transparent. I am a wildlife biologist, you might disagree with my views of good habitat, so we looked for comparables.

JM-How much brushing during operation to keep the road open.

NK-7 meters

DJ-Transborder pipeline there is no need to keep a right of way. On platforms, access right of way 6-7 meters a loop for access, but the entire area let it go back to willows.

NK-Access map you can look at.

BH-Areas of vegetation free? Technology.

NK-Enough traffic and moving, mechanical clearing.

DJ-ATV traffic, winter likely truck access. Revegetation, operation one trip a day and so disturbance.

BH-encroachment of 7-8 meters, fine.

12. Controlling access

Q. A permanent bridge is proposed across some waterways. Is there an option for non-permanent bridges?

A. Whether a bridge is permanent or temporary is subject to judgement. Permanent bridges are pre-cast concrete single span. Temporary bridges may be ice crossings or ford in summer time. Permanent bridges are removed at end of operation. Construction of permanent bridge most appropriate when daily traffic.

A. We can't stop people from using their lands. Tough situation. Do our best to keep people out. Winter access, there are a hundred cut lines, incremental access, any number of routes, in the summer there are none.

Gates, wells, service activity, an expensive turnstyle, company personnel, trained on caribou, BCC Board, workers learn about caribou and mitigation. You are your own caribou monitor, workers would learn about it. Legitimate kills if access was used to promote.

NK-None of our workers are allowed to carry a gun.

MA-Access roads at Indian Cabins will be blocked?

NK-we could.

KB-we can't prevent Aboriginal hunting on the roads.

DJ-Are you changing the access to the area? No not with today's technology. It is the ease of access, not the overall access.

Noise

13. Behavioural change in caribou

Q. Corey Branshaw's work shows that 40 decibels can result in behavioural changes in caribou. The EA report indicates no effect.

A. Corey Branshaw's work measured the impact of propane canons at 40-100 yards and recorded their actions. Short term impact not long term. So the work is not comparable. We will comply with guidelines.

A. The caribou and other moose will habituate to the noise and activity as long as the habitat is there. If noise is not correlated to threat the wildlife will habituate. Based on amount and length of time and ability to habituate there is no significant impact.

Q. How loud is 40 decibels?

A. We could do a table on noise comparisons.

Human Environment

Cultural and Heritage Resources

14. TK, trappers and compensation

Q. How will Paramount assess and measure the TK and existing land use practices, gathering, hunting, spiritual sites? What steps are being taken to develop a compensation package if impacts cannot be mitigated? What if problems occur despite best efforts by Paramount?

A. There will be compensation around a demonstrable loss such as hunting and trapping.

Q. What steps to inform yourself of the level of activity and if they are impacted info is there to understand impacts.

A. Maps already in place for trap lines, and community information. They are in Fort Simpson getting digitized. We are committed to work with the community long-term. Working in conjunction with the Chief so there is no negative impacts. We are in communication with trappers with Hay River, and Denetah, incorporated their info in project design.

Q. Have you moved the pipeline around to avoid 2-4 families trap lines?

A. 1 person from Kakisa, 2 from Hay River.

Q. How many trappers are involved? Who are they?

A. There has been confusion with our project and the Mackenzie Valley pipeline. Some of the elders linked our project with MVP project, could not discern one from the other. They have separated the two parts. West and south of Cameron there will be more impact on traplines etc., but not in our project. The only concern elders had was water quality, cause it flows into Tatlina Lake and Kakisa Lake.

A. Mervin Simba one trapper, another St. Pierre's and Chicot's have all resided in the areas historically, actual trapping on the Plateau is Mervin Simba, probably another person whose data we need to gather in the community, Kakisa's own data.

A. There is confusion about pipelines, elders had 1-50:000 maps from Tatlina lake up the Kakisa River where trap and hunting cabins are there, near Dog Face lake. Leon showed us and it isn't near the P Cameron Hills project.

Q. When are you going up next?

A. Alan Landry and I will in Calgary on Thursday, we are in contact with the community on a regular basis. We want to sit down with the maps, and talk in a formal setting in the next few weeks.

Q. Who are the others?

A. Roy Buggins, Hay River; Dennis Strang

Socio-Economics

No questions arose.

Land and Resource Use

No questions arose.

Visual and Aesthetic Resources

No questions arose.

Cumulative Impacts

14. Edge effect

Q. What is the impact of edge effect on this project? Simon Diar's work?

A. There is no edge effect from seismic lines. Active roads 200 m effects, with telemetry collars on the caribou. Avoidance was a word used by research team and its not what they mean, the caribou use it less. It boils down to wolves using corridors, caribou tend to stay back, active road 200 meters became the effect zone. Simons work the cut line had no effect.

Correlate what is in paper and what is out in Cameron Hills area. Seismic and roads, noise issue was it a direct habitat effect that came into play. With respect to cumulative effects, once the right of way is established then human disturbance is a quad or a truck once a day. To quantify a seismic line being shot or a road always used the correlation is difficult. We showed a positive and negative relationship, cows will cue to the higher source of food. Difficulty of real differences between chronic and low level disturbance as opposed to an active road. Biological perspective of buffer width, how it would add up, I wouldn't want to stand behind that number.

Cumulative effects, what is good for one and what is bad for another species. Trade off recognizing valued ecosystem components recognizing the habitat vs. species. Again we look to habitat, change the less slowly. Populations of species will change, habitat won't change as fast. We can look at and get a range but a buffer... strong possibility for error.

Other Relevant Matters

15. Pipeline ruptures

Q. What are the consequences of a pipeline rupture?

A. If a pipe ruptures there is a shut down at well head and plant end. Lose what is in the pipe. Gas is sour, breathe it and die, not lots of activity, hard to access. Length of line and amount. Is it rare, no. NEB statistics for rate of rupture. So not part of our plan. We limit. Spill and spill containment plan, part of the program. Emergency response plan and we clean up. We have never had to do it. Pipe thickness, not licensed past 60% of the strength of the pipe. On going maintenance, not destructive maintenance and operator goes up and down every day.

Q. How frequent are the inspections?

A. We don't go up and down daily. Monthly we fly it. We know that if what goes in isn't coming out there's a leak, pressure is continuous. Automatic

system to shut the system if there is a drop of pressure. It doesn't prevent the rupture. Three part program.

A. The pipe is designed not to rupture. It will be tested pneumatically.

Q. Are you double piping over water? Are you going under water?

A. We can't bore rocks on the Cameron river. Won't bore the crossing, a better way is to double wall pipe and the pressure sensors are hydraulic.

Q. What are the abandonment plans?

A. We send a pig in a pipe, put in an inert gas such as nitrogen. Larger pipe if it failed then some other point. Clean it, cap it. Anything a metre within the surface is removed. To remove the pipe would interfere with all the reclamation that has already taken place.

Q. After abandonment, will there be site revisitation, every five years, after abandonment.

A. We haven't laid out the abandonment process.

16. Land tenure

Q. What is the land tenure and what other activities are taking place on the lands?