NATIONAL ENERGY BOARD/OFFICE NATIONALE DE L'ÉNERGIE

Memorandum/Note de Service

Security/Sécurité: None File No./Référence: 065-30/12-4

Document:

Date: 6 September 1994

6 septembre 1994

To/À:

Dave Downing

Imre Varga

Normand Tremblay

From/De:

Andrew Graw

Subject/Objet: (DRAFT) Yukon Well Inspection

As was discussed, please find attached my comments and photographs on the wellsites that were inspected by us.

I would appreciate your comments on the attached material. From a meeting I had with Normand I understand that Normand will be submitting a supplementary report covering his comments on the inspected wellsites.

Imre perhaps you would like to do the same or I can incorporate any information or comments you have into a final report to be submitted to Mr. Brian Love with copies. Could you please return the full package to me and I will update the report sections and photographs for the final report .

Yours sincerely,

Andrew Graw

The following is a brief description and comments on the attached photographs.

Page 1

Photo 1 -This was taken from the Kotaneelee M-17 water injection well looking towards the backside of the plant.

Photo 2 - This was taken from the Kotaneelee M-17 water injection well looking towards the backside of the plant.

Photo 3 - This is Imre pretending that he is a young man and wanting to see who was boss!!!.

Page 2

The 3 photos were taken showing the Kotaneelee M-17 water injection well. The tubing pressure on the well was 9600 kPa. The annulus pressure was 2200 kPa. Terry Clellend advised us that the annulus pressure has remained at 2200 kPa since they took over the plant. Since there has been no change in pressure evident from previous inspections, I don't consider this to be a concern at this time. I have no concerns with this well.

Page 3

Photo 1 - This is a photo of Kotaneelee I-A well. The well was flowing on full choke at 9650 kPa and producing approximately 37 MMSCF/d. The flowing temperature was 94°C. From previous inspections there is no evidence of any annuli pressures. I have no concerns with this well.

Photo 2 and 3 - These are photos of the Kotaneelee E-37 suspended well. The pressures had been taken and bled off three days before our arrival. *IMRE CAN YOU SUPPLY FURTHER INFORMATION FROM THE REPORT THAT WAS GIVEN YOU.* Gas samples taken from the annuli on this well indicates that the gas is not from the producing formation (Nahanni formation). This well is presently in an unsatisfactory condition. Close monitoring by Anderson personnel and the indication that this well will be worked over in the near future and put on production alleviates the necessity for immediate action.

Page 4

Photos 1 and 2 are of the Kotaneelee I-27 suspended well. This well has been noted on previous inspections as unsatisfactory and has been brought to the attention of Anderson. They have monitored this well closely for the last three years to ensure that the condition of the well has not changed in any way. It has been our intention to have this well corrected to satisfy the regulations as soon as more workover activity occurs in the Kontaneelee field.

Photo 3 - This is a photo of Kotaneelee B-38 well. The well was flowing on full choke at 8929 KPa and producing approximately 13 MMSCF/d. The flowing temperature was 74°C. On the left is their chemical storage tanks. In the middle is the coolers which lower the produced gas and water temperature from 74°C to 30°C. The platform on the right is around the wellhead. I have no concerns with this well.

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Photo 1, 2 and 3 are of the Kotaneelee B-38 well. In photograph 2 on the right hand side is a flowline coming out of the ground. This line will be hydro tested in the near future for the purpose of tieing in the E-37 well to the main flowline going to the plant. Anderson intends to work over the E-37 well and tie it into the plant, using this line.

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Photo 1 and 2 are of Canoe River Chance YT J-19, ADW 0277. This well is owned by Norcen Energy. Jim Sheasby (Field Engineer-Norcen Energy) was on location for the inspection. This well was spudded in 1967 and suspended in 1968. The well is satisfactory suspended with no pressures on surface. I have no concerns with this well. Suspended status will be extended for a further three years.

Page 7

Photo 1,2 and 3 are of Western Minerals Chance YT M-08, ADW 0058. This well is owned by Norcen Energy. Jim Sheasby (Field Engineer-Norcen Energy) was on location for the inspection. This well was spudded in 1959 and suspended in 1960. The well is satisfactory suspended with no pressures on surface. I have no concerns with this well. Suspended status will be extended for a further three years.

Page 8

Photo 1 and 2 are of Socony Mobil WM Chance YT G-08, ADW 0143. This well is owned by Norcen Energy. Jim Sheasby (Field Engineer-Norcen Energy) was on location for the inspection. This well was spudded in 1964 and suspended in 1965. In 1993, I was on site for re-suspension of this well. At that time a Premium bridge plug was run and set at 1257 mKB. The well was bled down and a Camco retrievable G-lock plug was set on a collar stop set at 28 mKB. When we arrived on location for our inspection it was found that there was 1100 kPa on the tubing. We attempted to bleed this pressure off through the needle value on the wellhead. After 25 minutes the well had bled down to 200 KPa. On shut- in the pressure increased to 240 kPa. The well was then left for 2 hours with no increase in pressure. It appears that the G-lock plug at 28 mKB is not holding. The pressure on the well is trapped pressure between the bridge plug and the G-lock plug. With no increase in pressure after two hours is evidence that the lower bridge plug is holding. With bottom hole pressure being isolated from surface, I have no concerns with this well. Suspended status will be extended for a further three years.

Page 9

Photo 1 and 2 are of Socony Mobil WM Blackie YT M-59, ADW 0125. This well is owned by Norcen Energy. Jim Sheasby (Field Engineer-Norcen Energy) was on location for the inspection. This well was spudded in 1963 and suspended in 1964. The well is satisfactory suspended with no pressures on surface. I have no concerns with this well. Suspended status will be extended for a further three years.

While transferring from the M-59 location to D-54 location, Dave, Imre and Normand flew over two abandoned wellsite locations. These were:

Socony Mobil WM West Parkin YT D-51, ADW 0151

Canoe River East Chance YT C-18, ADW 0306

The D-51 well was drilled in 1965 and the C-18 well was drilled in 1968. Both of these wells have been satisfactory abandoned. On the fly over it was noted that the locations were satisfactory with only the well signs in evidence. I have no concerns with these wells.

Page 10

Photos 1, 2 and 3 are of Exco et al West Parkin YT D-54, ADW 1208 location. This well has been identified as an orphan well. This well was drilled in 1984 and suspended in 1985. The down hole abandonment has been done satisfactorily and it only requires a surface abandonment. The well sign is cemented into the 139.7mm casing which is sticking above the 244.5mm casing spool. The well file indicates that all casing strings have been cemented to surface and the 139.7mm casing has never been drilled out. There are no concerns with this well except that the surface abandonment has never been completed.

No photographs

We flew from the D-54 location to the Inc Husky Amoco Black-Fly YT M-55, ADW 0397 location. This well was drilled in 1970 and abandoned in 1970. We were unable to locate the wellsite. No photographs were taken of this area. We flew over the area indicated by the coordinates on file but were unable to identify any evidence of a drilling location. Due to fuel shortage we were unable to extend our area of search. The well file indicates that the well was properly abandoned down hole and the surface abandonment was completed according to the regulations.

No photographs

After leaving the area of the M-55 we flew to Inexco et al Mallard YT 0-18, ADW 0598 location. This well was drilled in 1972 and abandoned in 1972. No photographs were taken of this location. There was no well sign on this location to mark hole centre. We were able to identify the general area due to some cement that was on the ground. The down hole abandonment had been completed satisfactory from information on file. From viewing the surrounding area there does not appear to be any problem with the surface abandonment. I have no concerns with this well.

Page 11

Photos 1 and 2 are of Chevron SOBC Gulf Ridge YT F-48, ADW 0628. This well was drilled in 1973 and abandoned in 1973. The photo show that the 482.6mm cooling conductor is approximately 0.75m above ground. The 339.7mm casing is approximately 1.7m above ground. These casings have been cemented to surface and the down hole abandonment is satisfactory. The pipe from the rat hole is sticking up approximately 1.7m. I have no concerns with this well.

No photographs

After leaving the F-48 we flew to Chevron SOBC WM E Peel River YT O-7, ADW 0553. No photographs were taken of this location. This well was drilled in 1971 and abandoned in 1972. The down hole abandonment had been completed satisfactory from information on file. The 482.6mm cooling conductor is approximately 0.5m above ground. From viewing the surrounding area there does not appear to be any problem with the surface abandonment. I have no concerns with this well.

Page 12

Photos 1,2 and 3 are of Chevron SOBC WM Whitefish YT J-70, ADW 0646. This well was drilled in 1973 and abandoned in 1973. The 482.6mm cooling conductor is approximately 0.5m above ground. These casings have been cemented to surface and the down hole abandonment is satisfactory. The pipe from the rat hole is sticking up approximately 1.0m. I have no concerns with this well.

Page 13

Photos 1 and 2 are of Chevron SOBC WM Whitefish YT I-05, ADW 0578. This well was drilled in 1972 and abandoned in 1972. We did not land at this location. The 482.6mm cooling conductor is approximately 0.5m above ground. These casings have been cemented to surface and the down hole abandonment is satisfactory. I have no concerns with this well.

Page 14

Photos 1 and 2 are of Socony Mobil WM S Tuttle YT N-05, ADW 0148. This well was drilled in 1965 and abandoned in 1965. The 457.2mm conductor is approximately 1.22m above ground. These casings have been cemented to surface and the down hole abandonment is satisfactory. The pipe from the rat hole is sticking up approximately 1.98m. I have no concerns with this well.

Page 15

Photos 1, 2 and 3 are of Socony Mobil WM N Cath. YT B-62, ADW 0155. This well was drilled in 1965 and abandoned as a temperature observation well (TOW) in 1965. This is a TOW which was abandoned by Department of Energy Mines & Resources (EMR) in 1970. There is an agreement in place regarding the abandonment of TOW's. *Please note attachments*; photocopies showing two photographs that were taken by EMR in 1970 when they abandoned the well. By doing a comparison you can see the erosional effects over the years. This well was abandoned down hole as required to turn it into a TOW.

Page 16

Photos 1 and 2 are of Murphy Mesa BP Whitestone YT N-58, ADW 0645. This well was drilled in 1973 and abandoned in 1973. The 457.2mm cooling conductor is approximately 1.0m above ground. These casings have been cemented to surface and the down hole abandonment is satisfactory. I have no concerns with this well.

Page 17 & 18

The eight photographs are of Peel Plateau Eagle Pains YT No. 1, ADW 0041. This was the first well ever to be drilled in the Yukon Territory. This well was drilled in 1957 and abandoned in 1958. There was no pressure on the wellhead. The down hole abandonment has been done satisfactorily and it only requires a surface abandonment. There are no concerns with this well excep that the surface abandonment has never been completed. As was suggested perhaps the wellhead could be cleaned up, painted and left; as this was the first well in the Yukon.

Page 19

Photos 1 and 2 are of Shell Trail River YT H-37, ADW 0728. This well was drilled in 1973 and abandoned in 1974. The down hole abandonment is satisfactory. I have no concerns with this well.

Photos 3 and 4 are of Chevron SOBC WM N YT D-61, ADW 0565. This well was drilled in 1972 and abandoned in 1972. These casings have been cemented to surface and the down hole abandonment is satisfactory. The 482.6mm cooling conductor is approximately 0.6m above ground. The pipe from the rat hole and mouse hole is sticking up approximately 1.0m. The down hole abandonment is satisfactory. I have no concerns with this well.

No photographs

We flew from the D-61 location to Shell Peel R. YT H-59, ADW 0266. This well was drilled in 1967 and abandoned in 1967. We were unable to locate the wellsite. No photographs were taken of this area. We flew over the area indicated by the coordinates on file but were unable to identify any evidence of a drilling location. Due to fuel shortage we were unable to extend our area of search. The well file indicates that the well was properly abandoned down hole and the surface abandonment was completed according to the regulations.

No photographs

We flew from the H-59 location to Shell Peel R. YT 2B-06, ADW 0237. This well was drilled in 1967 and abandoned in 1967. We were unable to locate the wellsite. No photographs were taken of this area. We flew over the area indicated by the coordinates on file but were unable to identify any evidence of a drilling location. Due to fuel shortage we were unable to extend our area of search. We landed in an area that had possibilities but due to over growth and river channels we were unable to confirm the possibility of a drill site. The well file indicates that the well was properly abandoned down hole and the surface abandonment was completed according to the regulations.

Page 20

Photos 1 and 2 are of Socony Mobil WM Ellen YT C-24, ADW 0144. This well was drilled in 1964 and abandoned in 1965. The down hole abandonment is satisfactory. I have no concerns with this well.

Page 21

Photos 1, 2 and 3 are of Shell Peel R. YT L-01, ADW 0210. This well was drilled in 1965 and abandoned in 1966. On this location we did not land. It appears that the well was abandoned approximately 1.0m above ground level. The 508mm casing has been cut off leaving the 244.4mm casing is enclosed with cement used to for cementing the 508mm casing in place. The down hole abandonment is satisfactory. I have no concerns with this well.

Photo #4 is of Dave Downing, Imre Varga and Normand Tremblay. Taken for future reference.

























