

Hamre, John G.

From: Fahn, Patrick J.
Sent: Tuesday, July 07, 2009 2:12 PM
To: Hamre, John G.
Subject: FW: PSC Project Number PU-06-421
Attachments: North Spread Report 2-2-09-.pdf; North Spread Report 2-4-09.pdf; North Spread Report 2-5-09.pdf

John - please docket 2nd in 06-421 from KLJ and then forward to Commissioners, PUD and Legal

Patrick Fahn
Director-Compliance and Competitive Markets
Email: pfahn@nd.gov
Phone: (701) 328-4077

North Dakota Public Service Commission
600 E Boulevard
Bismarck ND 58505-0480
Fax: (701) 328-2410

-----Original Message-----

From: Mark Anderson [mailto:mark.anderson@kljeng.com]
Sent: Thursday, July 02, 2009 2:17 PM
To: Fahn, Patrick J.
Subject: PSC Project Number PU-06-421

Patrick:

Here are the reports for February. I think you may have copies of these already. Thanks.

Mark Anderson, PE

Kadrmass, Lee and Jackson, Inc.
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PSC CASE NUMBER: PU-06-421

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DAILY REPORT

1/5

Job Site: North Spread

Date: Feb 2, 2009

Location and
Operations Observed:

Mi. 7	HDD	Bore - Pembina Gorge
Mi. 96		Security Fence
Mi. 113	"	"
Mi. 116-118	"	"
Mi. 123	"	"

General Notes: As I write this report it appears we are near completion of the winterization phase of this project. The contractor is buttoning up all operations & preparing to shut down for the balance of the winter.

In A spot check of several locations throughout this spread, I found water bars had been installed on slopes >5%, in accordance with section 2.1.1. Sediment barriers were in place (section 2.1.4) & Temporary Mulch & seeding has been performed on designated sites. However much of this work was done too late in the growing season so the process may not benefit the affected areas as much as it should.

I observed that many of the temporary bridges & mats, have been removed from natural waterways in accordance with guidelines set forth in section 2.3 of the Keystone Winterization manual.

I did observe an alarming problem that has occurred in the last 2 weeks, and illustrates the need for winter monitoring.

I revisited the HAD bore site on Mi. 7 of our project, just west of Walhalla in the Pembina Gorge. As you know by reading my previous report, the HAD contractor began pulling the pipe for this bore last Tuesday, Jan 27th. They completed the pull of some 4000+ l.f. of pipe on Friday January 30th. On my Monday visit to the site, (Feb. 2, 2009) I noticed 5 large sink-holes had developed on the North end of this project, directly over the pipeline. They range in size from 20' in diameter to 50' in diameter. The depth of the sink-holes vary from 20' to 30'. One of the sinkholes is directly below a stand of Pine trees in the Tetrault State Forest. The trees appear to be standing erect, but the root system is hanging in mid-air for several

of the pine trees. One of the sinkholes is near a snow-mobile route. The actions taken by the contractor are preventative at this point. They have completely surrounded the holes with orange security fence & posted "road closed" signs at points of intersection with existing road trails. I spoke to Dean Di Thomasso, lead Environmental Inspector for ENSR. He said this all has happened in recent days. Bill Laffoon, Resident Construction Supervisor for Universal Enasco, said the contractor plans to monitor the area this winter, & when they (contractor) return in the spring they will haul in material to back-fill the sink holes. Bill also added that he has been in close touch with Tom of the N. Dak Forest Service & that he has been kept apprised of these occurring events & is satisfied with the counter actions taken by the contractor at this time.

In light of these events I think it would be most important to closely monitor this area. If additional cave-ins occur they could be tragic for anyone in the vicinity who may be caught in the ground shift.

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DAILY REPORT (Cont.)

Date 2-2-2009

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Section 3 § 3.1 of the keystone Pipeline Project winterization Plan addresses the company monitoring intentions. A contact to the company & the Forest Service may be advisable, to confirm that everyone is on the same page with regards to the type & frequency of monitoring.

lastly I had opportunity to spot check the line route on the extreme south end of this project. There are long stretches of open trench near the Luverne area. However I observed that security fence had been installed around these lengthy reaches as well as intermittent short stretches of open trench at tie-in locations. The contractor indicated he has installed some 38,000 l.f. of fence throughout the project

I expect my final report for the season will be next week.

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DAILY REPORT (Cont.)

Date 2-2-2009

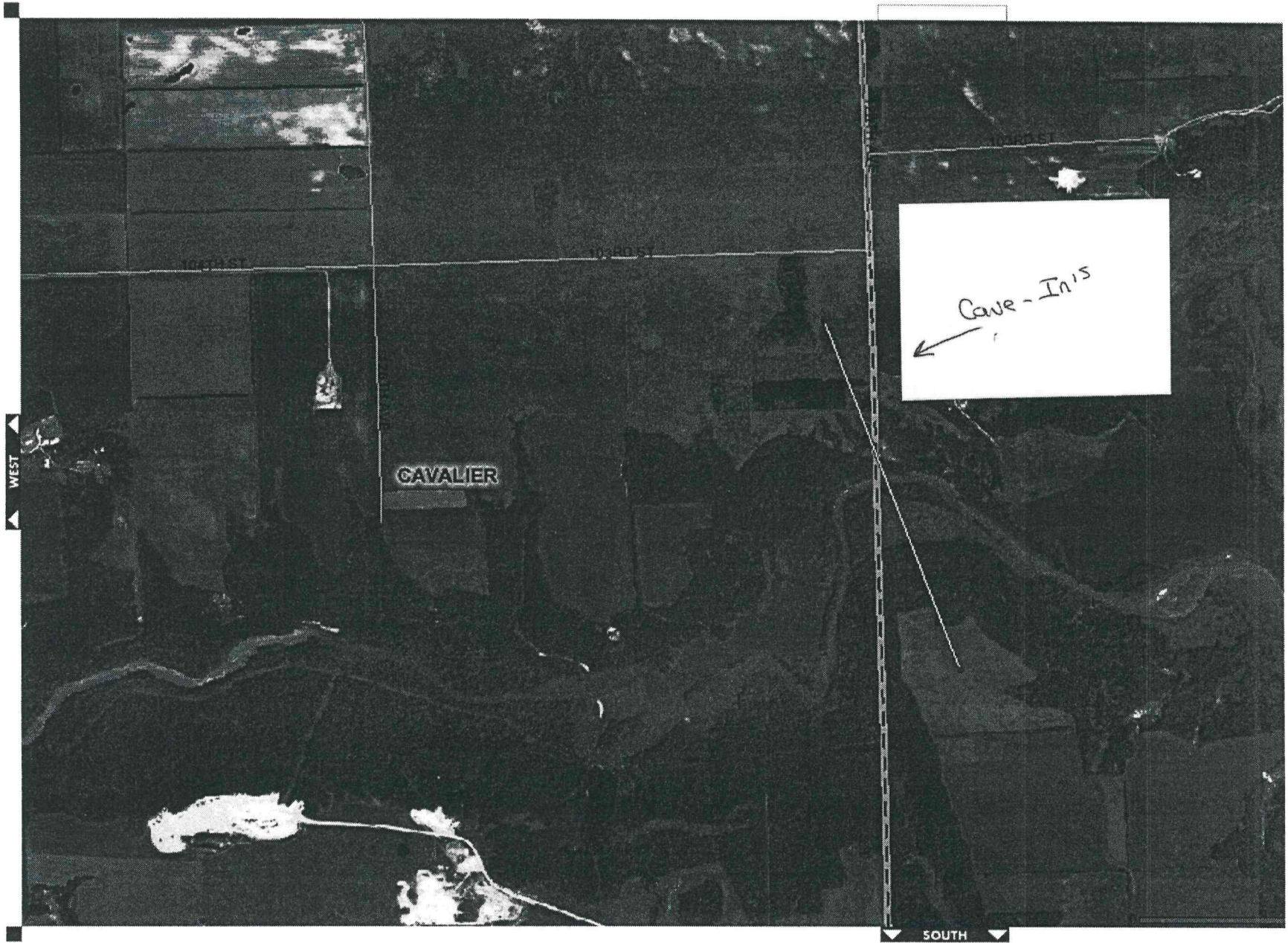
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The following deviations from the finding of facts were found:

- None -

Signature: Dennis Markusen

Print Name: Dennis Markusen



PSC CASE NUMBER: PU-06-421

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DAILY REPORT

Job Site: North Spread

Date: 2-4-2009

Location and Operations Observed: Mi. 7 - Pembina River Crossing

General Notes: Bill Laffoon, Resident Construction Supervisor for Universal Enesco, met with me on-site today to discuss the sink-hole problem that recently developed with the HDD operation, recently completed in the Pembina River west of Walthalla N.D.

Bill received a call from the head of Keystone Pipeline expressing their concern with this development. Bill said they are sending a Geo-Technical expert to visit the site tomorrow morning. This person has worked with Keystone helping develop solutions to this type of

problem. He is expected to arrive at approximately 10:00 a.m. on Thursday. Their intentions are to review the site, & develop a plan to address the problem. Bill has invited me to attend if I had the time. He will call tomorrow when they are ready to leave for the job site.

We also discussed the need for more security fence on the North end, near the entry point, & also south of the Southernmost sink hole, to the crest of the hill. Bill was going to get a detail going on that later today.

I will report again as soon as I have any new information. For now the plan is to secure the area & keep the public away from the holes.

Bill said the operators of a snow mobile trail that runs through this area have been notified that this trail is closed at this location, until further notice.

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DAILY REPORT (Cont.)

Date 2-4-2009

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The following deviations from the finding of facts were found:

I believe a deviation from the finding of fact, put
out by the NDPS, has occurred as a result of this
series of cave-ins. The last sentence of paragraph 31
states: "The pipe line will not impact the forested areas
of the Tetrauit Woods State Forest".... I observed, as
reported a sink-hole directly under trees I believe to
be in the State forest.

Signature: Dennis Markusen

Print Name: Dennis Markusen

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DAILY REPORT

1 / 3

Job Site: North Spread

Date: 2-5-2009

Location and Operations Observed: mi. 7 Pembina River

General Notes: I met on site today with
Dean D'Thomaso, Fernando H. & Team of Keystone sub-contracted
land Surveyors, for the purpose of reviewing the
sink-holes, quantifying there size & volume, & sharing a
time line with Fernando, who is a Civil Engineer, working
for a subsidiary of Keystone Pipeline. His involvement
is to do a pre-liminary assessment of the
problem area & search for other evidence of additional
potential problem areas. Fernando indicated to me that
his investigation will take a 2 phase approach.
Phase I being, what caused the sinkholes to develop?
Phase II a plan to repair & restore damaged area.

Fernando asked the survey team to place offset lath at the quarter points of each sink-hole to monitor any additional activity, or movement of the cavity. He also would like to know the specific volume of each hole. We discussed ways to do that safely, ... suggested a laser scanner would be a useful tool to accomplish that. We also looked at the terrain over the balance of the route, ... looking for signs of additional subsidence or earth strain. We walked the route over the Pembina River looking both directions for any signs of future problems. None was evident today. I asked that their repair plan of action be forwarded to us.

Bill Laffoon said they would keep us in the loop. Fernando believed his report would be forwarded, along with boring records to a geo-technical consulting firm, used frequently by Key Stone to assist in the development of a corrective plan.

Other activity observed today was the continued dismantling of shelters at Exit / Entrance points to the bore.

- End Report

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DAILY REPORT (Cont.)

Date 2-5-2009

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The following deviations from the finding of facts were found:

No additional deviations found.

Signature:

Dennis Markusen

Print Name:

Dennis Markusen