

*Keystone*

*Pipeline*

**Final Inspection**

*Reports*

*1-5-2011*

Kadmas

Lee &

Jackson

Engineers Surveyors  
Planners

PROJECT Keystone Pipeline - North Spread

SHEET NO. 1 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jon Burke DATE 12-1-10

Mile #1 - 109st NE, North to US/Canada boarder, 1 mile south

Comments / Observations

Signs in place  $\pm$  of pipeline 1'x1/2' on 6' post

no subsidence

Field looks normal

109st NE had no subsidence

Signs on both sides of 109st Rd - both sides of Drainage Ditches, 1 in shelterbelts

2

width of clear cut through shelterbelt is 50' with sign showing  $\pm$  of Pipe

3

4 -> All signs say

TransCanada

Keystone Pipeline  
Te. oil pipeline  
operations inc.

WARNING

High Pressure  
Petroleum  
Pipeline

All know whats below  
call before you dig

in case of An  
emergency call  
1-800-447-8066

Mile #2 108st NE

Signs in place on both sides of 108st NE

no subsidence on Road

no subsidence noticed in fields

Picture #1 This type of sign Allways on North side of Roads



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**HIGH PRESSURE**  
**PETROLEUM**  
**PIPELINE**



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Picture # 1 This type of sign always on South Side of Roads



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Picture #3 clear cut through shelterbelt 50'



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**WARNING**

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Mile #3 - 107st NE

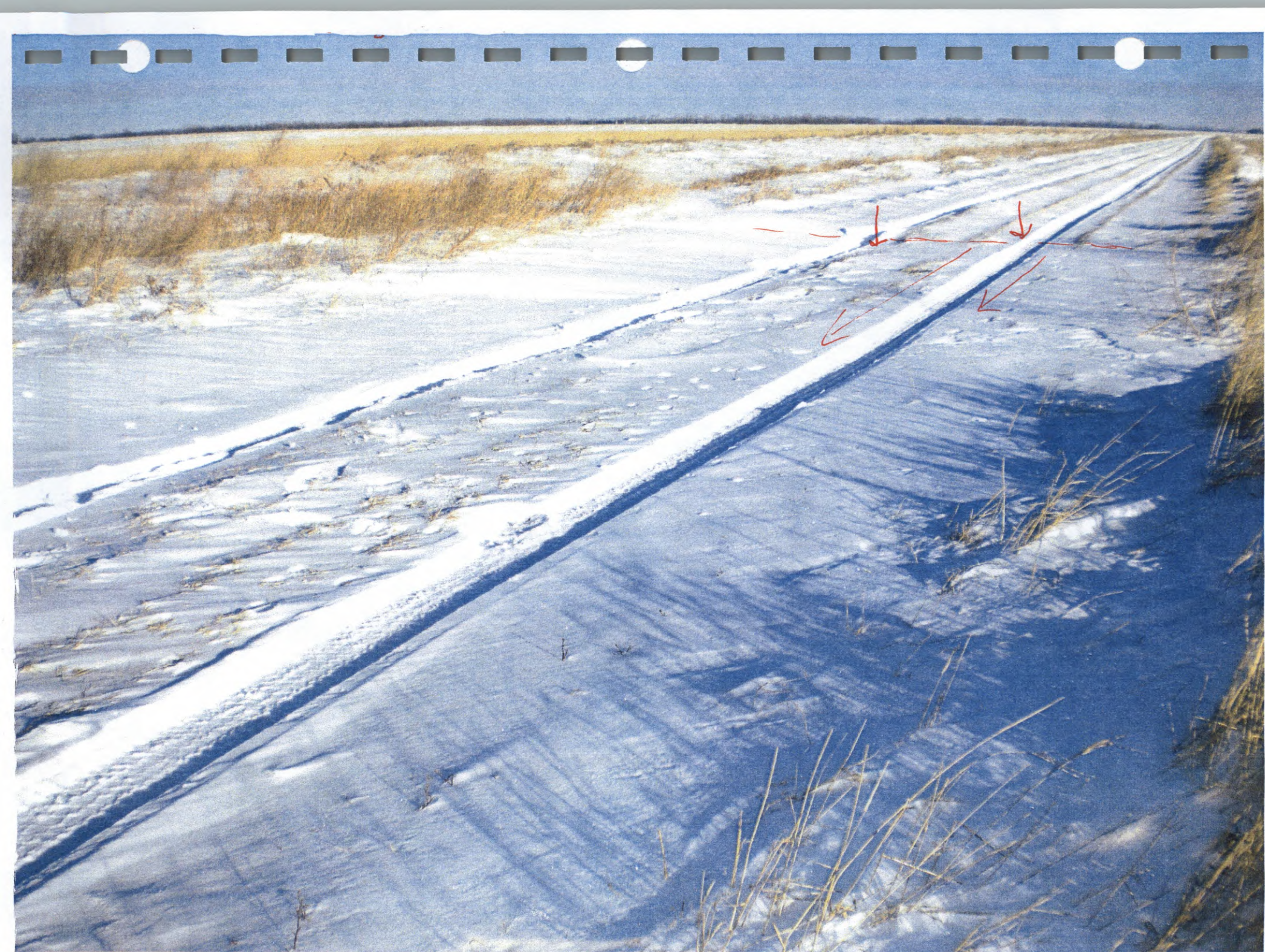
### Comments / Observations

Picture #5 Signs in place on both sides of 107st NE ☐ of pipe  
→ Seems to be slight settlement of Roadway between signs compared to rest of Road  
no subsidence noticed in fields

Mile #4 - 106st NE

Signs in place on both sides of 106st NE ☐ of pipe  
could not determine any settlement due to 4' of snow on Road

Picture #6 Drainage ditch on south side of road, no sign of erosion  
→ cover crop - well established 4' high, 1' high existing out side of work area  
is this cover crop the same as existing?



Picture #5 Seems to be slight Settlement



Picture # 6 established cover crop

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PROJECT Keystone Pipeline - North Spruce

SHEET NO. 3 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jon Burke DATE 12-1-10

Mile # -5 105st NE

### Comments / Observations

Signs for  $\phi$  of pipe on both sides of Road  
on North Side of 105st NE cover crop well established  
no subsidence on roadway or field.

clearcut through about 1200' of woods at 85' width as per spec.  
Signs on both sides of clearcut

South Side of 105st NE crop has been harvested, no subsidence noticed  
clearcut through wood at 85' as per spec

Mile # -6 CR55

Signs for  $\phi$  of pipe on both sides of Road  
no subsidence noticed on roadway or fields

cover crop seems well established on both sides of CR55

Picture # 9 → emergency shut of station on south side of CR55

30x40 enclosed, locked with barbed wire on top. 6' high fence

Picture # 10 → North of CR55. Small creek crossing 1/2 mile, embankment looks to be Terraced

Picture # 11 → mile marker #5 - at edge of small creek South Side

Picture # 12 - flow of land seems to match original

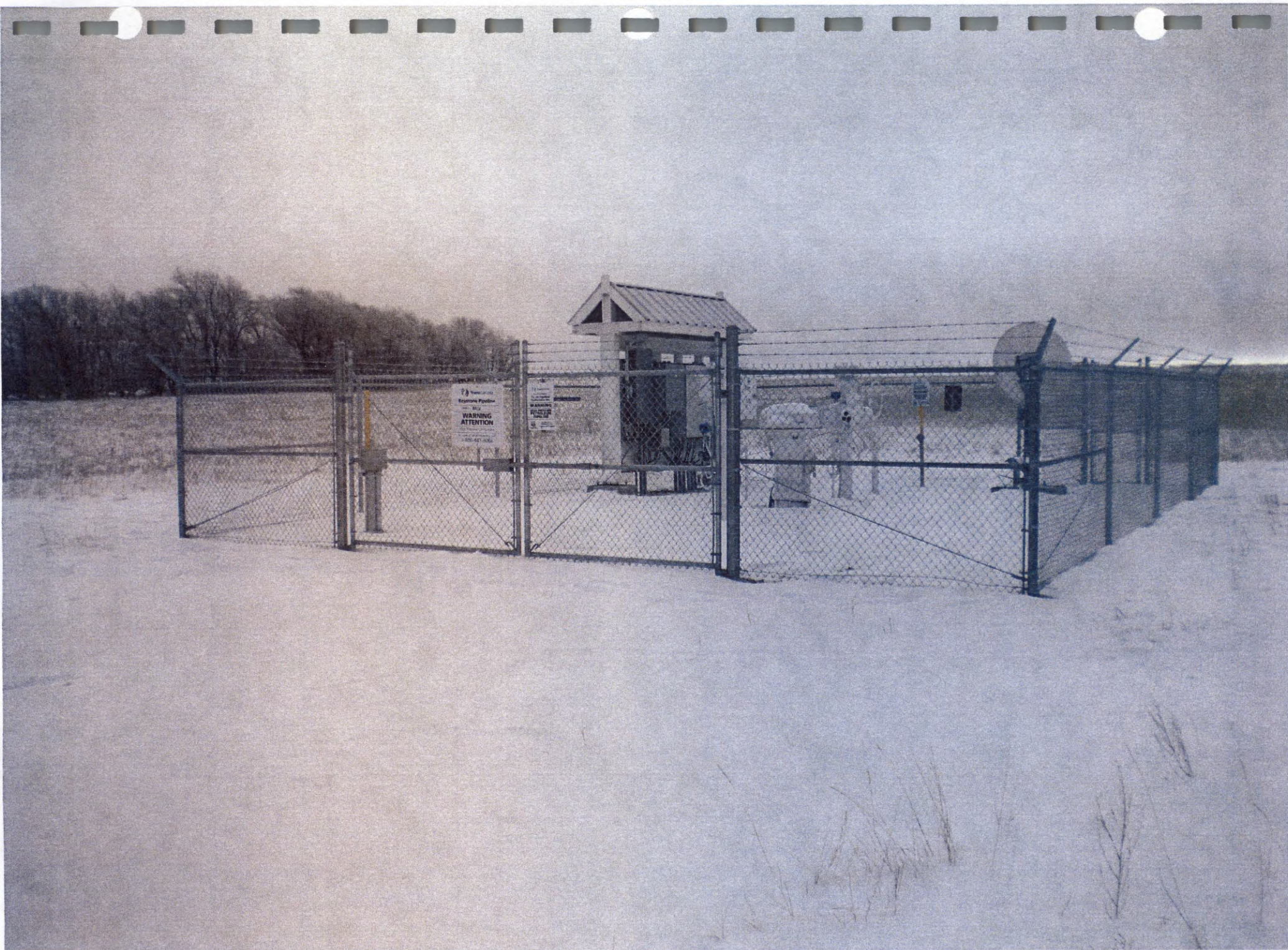
Picture # 13 - burms seem to match original



Clear cut through Woods 85', Noticed signs at both ends



Picture #8 clear cut through woods 85', Fencing and Gates put back in place



Picture #9 emergency shut off station South Side of CR 55 1st one



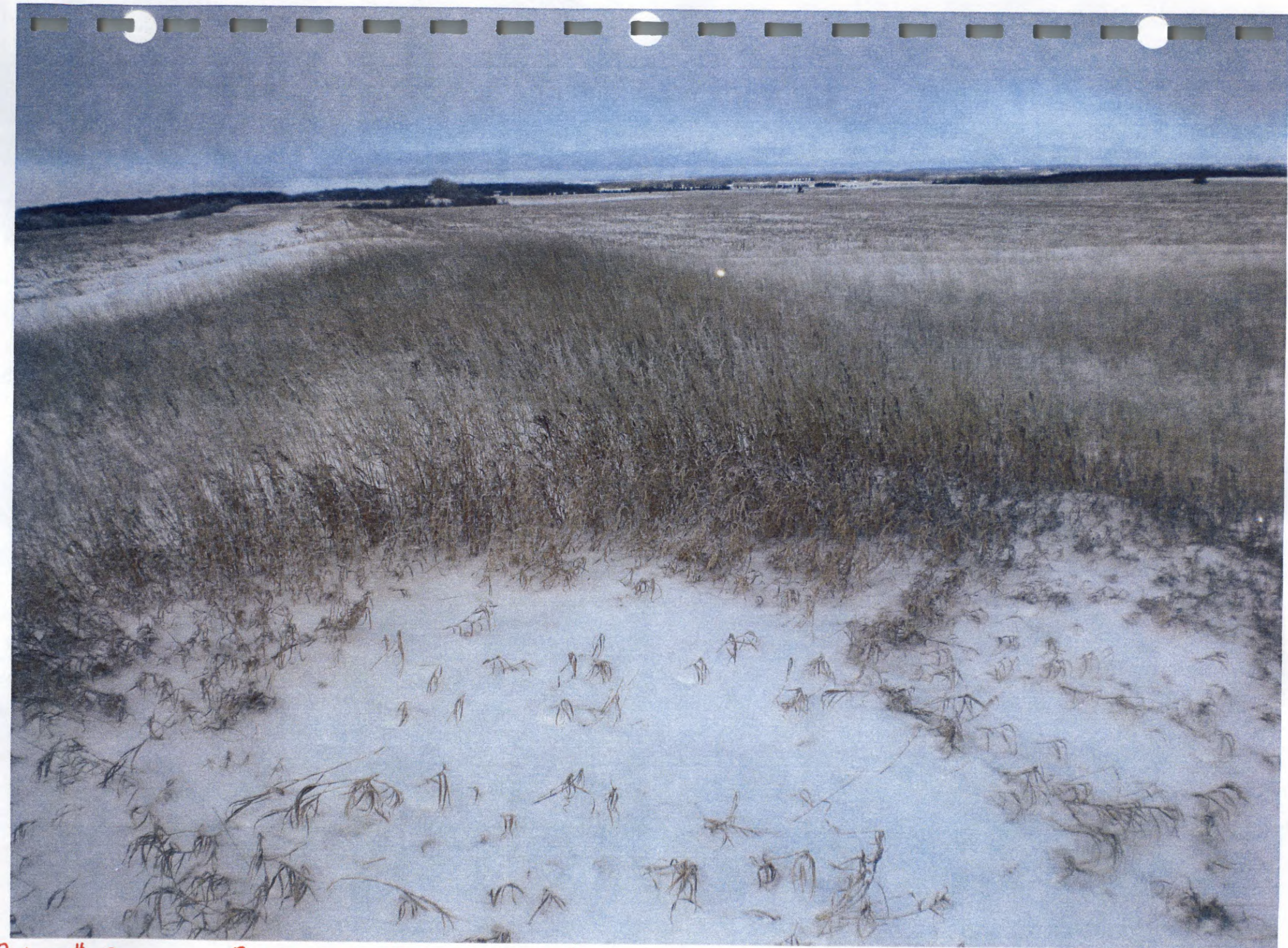
Picture #10 Embankment Terraced, noticed signs on both sides



Picture #11 mile markers every 5 miles, Aerial markers



Picture #12 shows flow of land



Picture # 13

Burms seems to match originall

Mile # -7 - 103st NE

### Comments / Observations

Signs on both sides of low maintenance Rd.  
No subsidence noticed on Roadway  
Cover crop well established  
Fields look to have natural flow

Picture

#14 → orange marker & of pipe line, south of 103st NE mm 7,

Picture  
#15 → This area has noticeable low spots and Ruts North Ridge of Pembina River Gorge

#16 → 2-12' Rods - 100' Apart - series of Rods 5.

I did not walk down to bottom of Gorge, due to I was alone, did not notice anything out of the ordinary from North side of Ridge.

Picture

#17 replacement trees planted

Mile # -8 - 102st NE

Picture  
#19 → Sign & - orange 2" wide - 5' long - edge South Ridge of Pembina River Gorge

I did not go down to bottom of Gorge, due to I was alone, did not notice anything out of ordinary from South Ridge.

Cover crop is well established,

Picture  
#18 → Center of Cover crop looks like it was cut, for service Road

Field seems to follow flow of original land

Signs on both sides of Emil Lane south of mm 8 1/2 mile

No subsidence noticed on Roadway

Fields look to have natural flow

Picture # 14 This type of marker was also used for 2 of pipe.  
This area also very ratted





Picture #15 Metal Rods? North end of Pembina Gorge, Very rutted

Picture # 16 Metal Rods!





Picture #17 replacement trees



Picture #18 Center of Cover crop, looks to have been Oct.



Picture #19 South Ridge of Aembing Gorge

Mile # 9 101st NE

### Comments / Observations

Picture # 20 - Value station (3) 30x40, Gates locked as are each value, North side of Rd. 200' off Road  
Signs for  $\text{E}$  of pipe on both sides of Road  
No subsidence on Roadway  
Field look to have natural flow, no subsidence

Mile # 10 - 100st NE

Signs for  $\text{E}$  of Pipe on both sides of Road  
No subsidence noticed on Roadway  
Field on North side of Road looks to have natural flow  
Cover crop on South side of Road looks well established.  
Cover crop is taller than Original CRP?  
mile marker 10 is  $\frac{1}{4}$  mile on South side of Road between shelterbelt



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Picture #20 Valve station mile 9 1st one

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PROJECT Keystone Pipeline - North Spruce

SHEET NO. 6 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jon Burke DATE 12-2-10

Mile #11 - 99st ne

### Comments / Observations

Signs for  $\Phi$  of pipe on both sides of Road

No Subsidence on Roadway

Fields on both sides look to have natural flow, no subsidence

Mile #12 - 98st ne

Signs for  $\Phi$  of pipe on both side of Road

No Subsidence on Roadway

Fields on both sides of Road look to have natural flow, no subsidence  
width of clear cut through shelterbelt has been at 50' per spec.

Mile #13 - 91st NE

### Comments / Observations

Signs for  $\Phi$  of Pipe on both sides of Road

No subsidence noticed on Roadway

Fields on both sides look to have natural flow no subsidence

Mile #14 96st NE

Signs for  $\Phi$  of Pipe on both sides of Road

No subsidence noticed on Roadway

Fields on both sides look to have natural flow, no subsidence

\* could not get to Bisse Coulee between mile 13 & 14 due to too much snow

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PROJECT Keystone Pipeline - North Spear

SHEET NO. 8 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jon Burke DATE 12-2-10

Mile # 15 935+NE

### Comments / Observations

Signs for  $\Phi$  of pipe on both sides of Road

No sign of Subsidence on Roadway

Fields on both sides of Road look to have natural flow

Picture # 01 → Automatic pressure emergency station on South side of Road 200' off Road, 6' chain link topped with barbed wire

Picture # 02 → Mile marker 15 attached to back of fenced area, these are to be seen from the Air when they do there survey by plane

Mile # 16 945+NE

Signs for  $\Phi$  of Pipe on both sides of Road

No subsidence on Roadway

Fields on both side of Road look to have natural flow



Picture #21 Automatic pressure emergency station mile #15 (2nd one)



15

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Picture # 22 mile marker 15 for Aerial Survey

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PROJECT Keystone Pipeline - North Spear

SHEET NO. 9 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jon Burke DATE 12-2-10

Mile # 17 93 St NE Hwy 5

### Comments / Observations

No signs on either side of Hwy 5

Picture #23 on North side of Hwy 5 Signs for  $\varnothing$  of pipe on both side of small creek about 250 yds from Hwy.

on South side about 1/4 mile Signs for  $\varnothing$  of pipe through shelterbelt

No sign of Subsidence on either side of Road or creek bottom

Signs in place between mile 17 & 18 at 3 drainage ditches, no sign of any subsidence, field look to have natural flow

Mile # 18 92 St NE

Signs for  $\varnothing$  of pipe on both side of Road,

no sign of Subsidence on Roadway


Picture #24 → looks to be a large area that needs to be replanted with cover crop, this area is north of the tongue River

Picture #25 Hill leading down to this looks to be terraced, no washout visible

→ I walked down to tongue River, no sign of any subsidence

Picture #26 → looking back from tongue River

Picture #27

→ Noticed cattails growing slightly uphill, wet area on top of  $\varnothing$  of pipe  
 I pushed a 4' walking stick down 3' with ease, is this a concern?



Picture # 23 North of Hwy 5



soft spot  
PKS. # 26 & 27

Picture # 24 Needs Cover Crop?



Picture # 25 Tongue River



(soft spot)



Picture #26 looking back from Tongue River (Refer to Picture #27)



Picture #27 Soft spot, pushed 4' stick down 3' with ease. ♀ of PIPC, Refer to Picture #26

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PROJECT Keystone Pipeline - North Spread

SHEET NO. 10 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY bn Burke DATE 12-3-10

Mile # 19 91st NE

### Comments / Observations

Signs for  $\mathcal{E}$  of Pipe on both sides of Road

No Subsidence noticed on Roadway

Fields on both sides look to have natural flow

No Subsidence noticed in Fields

\* Private Drive (9035) # on post. No signs showing  $\mathcal{E}$  of pipe?

Mile # 20 90st NE

Picture # 8 → Valve station (3) inclosed in a 30 x 40 6' high topped with barbed wire, Gate and Valves all locked - about 200' off road.

Field looks to have natural flow

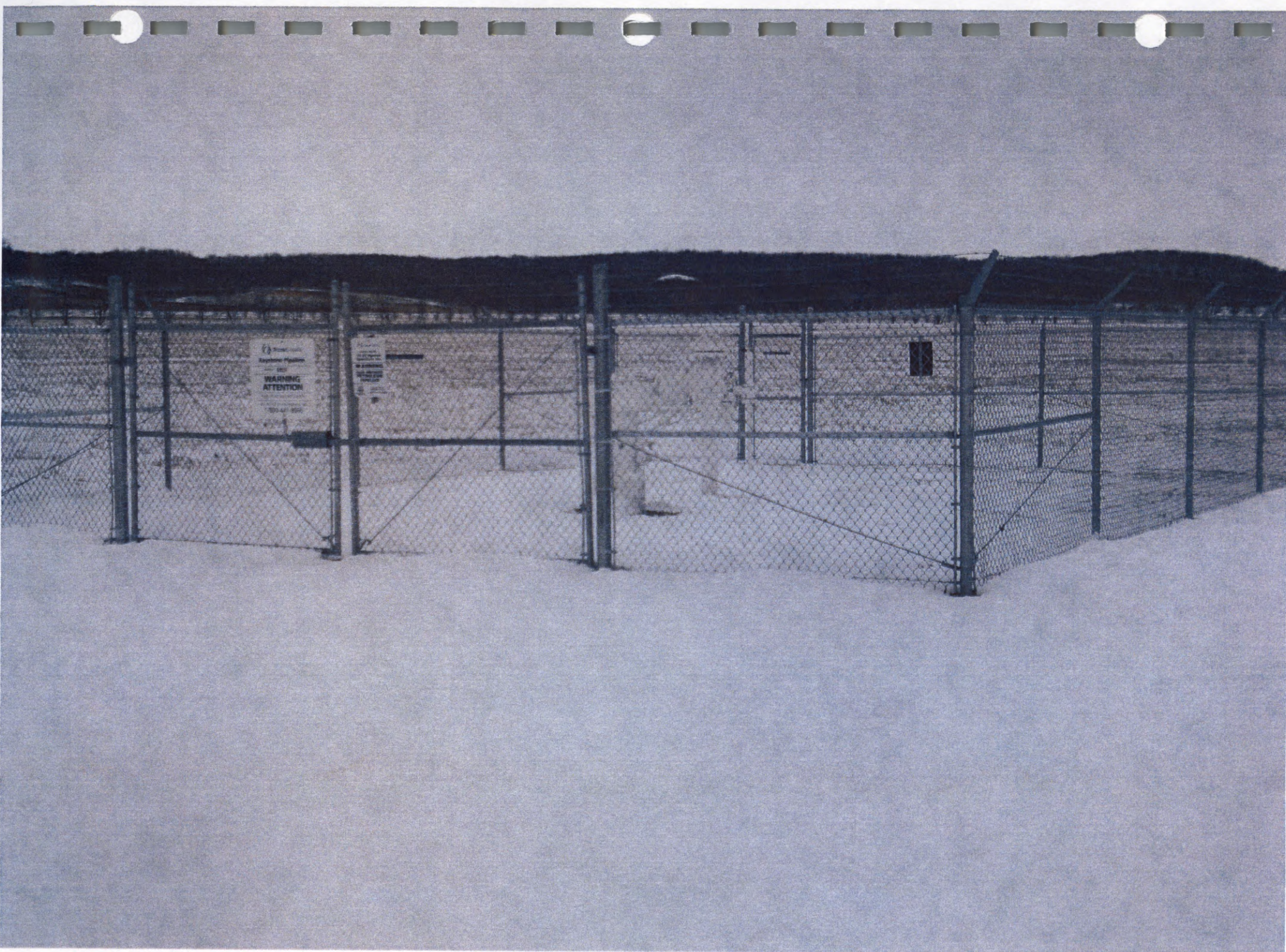
Pipe crosses 127AUNE, Signs on both sides of Road  
No Subsidence noticed on Roadway

Pipe crosses 90st NE, east side of 127AUNE

Signs for  $\mathcal{E}$  of Pipe on both sides of Road

mile marker 20 on South Side of Road

Fields on both sides look to have natural flow



Picture # 28 Valve Station mile 20 2<sup>nd</sup> one

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SHEET NO. 11 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jon Burke DATE 12-3-10

Mile # 21 89st NE

### Comments / Observations

Signs for  $\varnothing$  of Pipe on both sides of Road.

No Subsidence on Roadway

Fields on both sides of Road look to have natural flow

Signs between shelterbelts are the orange ones 2" x 5' or white signs on posts.

Seems that signs on North side of road are on a channel post

Picture  
29

→ Signs on South side are on a 1 1/2" x 1 1/2" yellow tube post

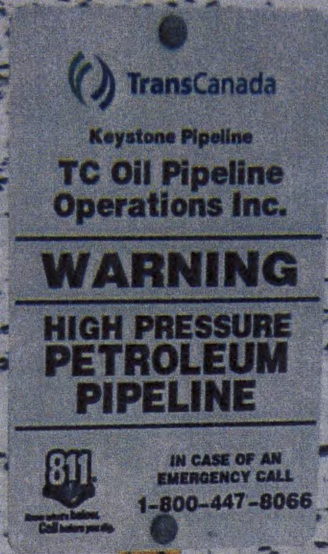
Mile # 22 88st NE (Cty 3)

Signs for  $\varnothing$  of Pipe on both sides of Road

no subsidence noticed on Roadway

Fields on both sides look to have natural flow

Picture #29 example of Signs on South Sides of all Roads



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**811**  
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Some water bodies  
Call before you dig

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PROJECT Keystone Pipeline - North Spread

SHEET NO. 12 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jan Burke DATE 12.3-10

Mile #<sup>23</sup> 87st NE

### Comments / Observations

Sign for  $\Phi$  of pipe on North side of Road only, This is a low maintenance Road looks like road was trenched and not bored.

No Subsidence noticed on Roadway

Field to North of road looks to have natural flow.

Cover crop to the south of road is well established

Mile #<sup>24</sup> 86st NE

Signs for  $\Phi$  of pipe on both sides of Road

No Subsidence noticed on Roadway

Cover Crop on both sides of road well established looks to have natural flow

Carr Creek looks to have no subsidence

Signs for  $\Phi$  of pipe on both sides of Creek as well as private drive

Mile #25 - 85 St NE

Comments / Observations

Picture #30

Signs for  $\Phi$  of Pipe on both sides of low maintenance Road  
- mile marker 25 on North Side of Road for Aircraft patrol  
No subsidence noted on Roadway or in fields  
Fields look to have natural flow. North  
Cover crop looks to be well established

Mile #26 - 84 St NE - (Hwy 66)

Signs for  $\Phi$  of Pipe on both sides of Hwy 66  
no subsidence on Roadway  
North of Hwy 66 signs on both sides of small drainage ditch.  
Fields on both sides of Road look to have natural flow  
no signs of subsidence

Picture #30 Mill is for HIR Survey



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PROJECT Keystone Pipeline - North Spruce

SHEET NO. 14 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jon Burke DATE 12-3-10

Mile #27 - 83st NE

### Comments / Observations

No Access to 83st NE mile #27

From mile marker 26, 82st NE I can see with field glasses to Hwy 66 open field,

No Subsidence noticed, Field looks to have natural flow to the North

Mile #26 82st NE

Signs for  $\varnothing$  of pipe on both sides of Road

No subsidence noticed on Roadway

Field to the South looks to have natural flow

Cover crop looks to be well established

no Subsidence noticed in fields

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PROJECT Keystone Pipeline - North Spear

SHEET NO. 15 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jon Burke DATE 12-3-10

Mile # 29 Eirikson LN

### Comments / Observations

Signs for  $\varnothing$  of Pipe on both sides of Road

No Subsidence on roadway noticed

Signs also in place between shelterbelts.

Fields on both sides look to have natural flow

No Subsidence noticed

Mile # - 81st + NE

Between mm 29 & 30

Signs for  $\varnothing$  of Pipe on both sides of Roadway

No Subsidence on Roadway noticed

North of Road is the North branch of the Park River

Signs on both sides of River.

I walked to edge of bank south side, no Subsidence noticed

Fields on both sides look to have natural flow of land

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PROJECT Keystone Pipeline - North Spread

SHEET NO. 16 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jon Burke DATE 12-3-10

Mile # 30 80st NE

### Comments / Observations

No Access to the west of 80st NE

I could see from 81st NE with field glasses that mile marker 30 is in place for Aircraft, Also signs for Q of pipe is in place through shelterbelts.

Mile # 31 79st NE

Signs for Q of Pipe on both sides of Road,

No Subsidence on Roadway

Fields on both sides of Road look to be natural flow

No subsidence in fields.

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SHEET NO. 17 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jon Burke DATE 12.3-10

Mile #<sup>32</sup> - 78st NE

### Comments / Observations

Signs for  $\Phi$  of pipe on both sides of Roadway

no subsidence on Roadway noticed

Field on North side looks to follow natural flow

Field and pasture on South also looks to follow natural flow

Cover crop looks well established

no subsidence noticed

Mile #<sup>33</sup> 77st NE

Signs for  $\Phi$  of pipe on both sides of Roadway

no subsidence on Roadway noticed

Field on North side looks to follow natural flow

no subsidence noticed

Picture  
#31

- Sign on North side of Road also has a pipe next to it, 2" round white looks like a Airvent

- Railroad on South side of Road, with signs on both sides  
no subsidence noticed on Railway

Picture  
#32

- There are 2 signs and a 2" round white pipe about 6'5" tall on the South side of RR

Walked over to North side bank of middle branch Park River

no subsidence noticed

Picture # 31 North Side of Road. Also with Pipe, Vent?



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Picture #32 South Side of RR tracks, also with pipe vent



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PROJECT Keystone Pipeline - North Spread

SHEET NO. 18 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jan Burke DATE 12-3-10

Mile # 34 76st NE

Comments / Observations

Signs for  $\pm$  of pipe on both sides of Roadway

No Subsidence noticed on Roadway

Picture

33

34

North Side of 76th is the first Pump Station & 126 Au NE

South side, the field looks to follow natural flow

No Subsidence noticed

Mile # 35 1/2 mile south of 76st NE

Picture

35

Sign for mile marker 35 for Aircraft is in a small shelterbelt

1/2 mile south of 76st NE

Fields on both sides look to follow natural flow of land



Picture # 33 1st Pump Station 76th St & 126th Ave NE



Picture #34 1st Pump Station



Picture #35 mm 35 for Air Survey

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PROJECT Keystone Pipeline - North Spread

SHEET NO. 19 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jan Burke DATE 12-3-10

Mile #36 75th NE CR9

### Comments / Observations

Signs for  $\Phi$  of Pipe on both sides of Road

No Subsidence noticed on Roadway

Fields on both sides of Roadway look to follow natural flow

No Subsidence noticed

Mile #37 74th NE

No roads to mm 37, this is in middle of field

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PROJECT Keystone Pipeline - North Spread

SHEET NO. 20 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jon Burke DATE 12-6-10

Mile #<sup>38</sup> - 73st NE

### Comments / Observations

Signs for  $\varnothing$  of Pipe on both sides of Road

No subsidence noticed on Roadway

Fields on both sides of Road look to have natural flow

No subsidence noticed in fields

Mile #<sup>39</sup> - 72st NE

Sign for  $\varnothing$  of Pipe on South side of Road - (Field Road)

No subsidence noticed

Fields on both sides look to have natural flow

No subsidence noticed in fields

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PROJECT Keystone Pipeline - North Spread

SHEET NO. 21 OF 23

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jon Burke DATE 12-6-10

Mile # 40 7154 NE

### Comments / Observations

Signs for  $\varnothing$  of pipe on both sides of Road

No Subsidence noticed on Roadway

Fields on both sides of road look to have natural flow

No Subsidence noticed in fields

Signs also in place in any drainage areas in fields, signs on both sides of drainage areas

mile marker #40 for Aircraft in shelterbelt between mm 40 & 41

Mile # 41 7054 NE

Signs for  $\varnothing$  of pipe on both sides of Road

No Subsidence noticed on Roadway

Cover crop on both sides of Road is well established

Fields look to have natural flow

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PROJECT Keystone Pipeline - North Spread

SHEET NO. 22 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jon Burke DATE 12-6-10

Mile # <sup>42</sup> 69st NE

## Comments / Observations

Signs for  $\Phi$  of pipe on both of Road

no subsidence noticed on Roadway

Field on North side of Roadway looks to have natural flow

No subsidence noticed in field

Picture  
# 36

→ South side of Road, goes down to the South branch of Park River  
Pipe is marked by orange markers, slope leading down to pasture is terraced to prevent any washouts.

looks to have natural flow up to river.

No subsidence noticed.

I walked down to North side of river, no subsidence noticed

Mile # <sup>43</sup> 68st NE (Hwy 17)

Signs for  $\Phi$  of Pipe on both sides of Roadway

no Subsidence noticed on Roadway

Fields and pastures look to have natural flow

no subsidence noticed

All fence look to be in place



Picture # 36 Orange markers for ♀ leading down to North side of Park River

Mile #<sup>44</sup> 67st NE

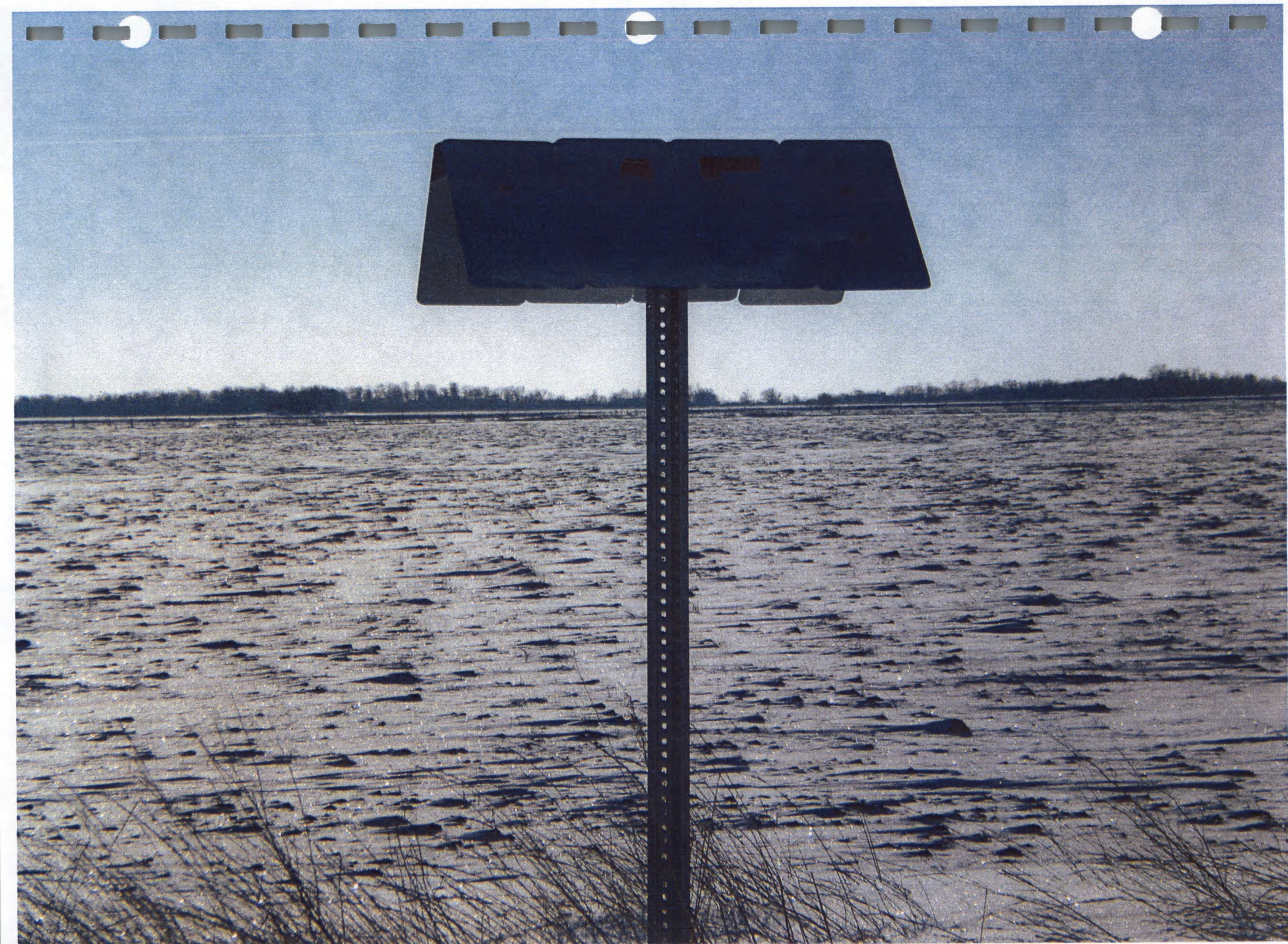
Comments / Observations

Signs for  $\varnothing$  of pipe on both sides of Road (miniman maintenance Rd)  
no Subsidence noticed on Roadway  
Fields look to have natural flow  
no subsidence noticed

Mile #<sup>45</sup> 66st NE

Signs for  $\varnothing$  of pipe on both sides of Roadway  
No subsidence noticed on Roadway  
Field on North side looks to have natural flow  
Field on south side cover crop looks to be well established  
no Subsidence noticed on either side  
mm 45 for Aircraft is on a fence line between mm 45 & 46  
Snow seems to stay on signs, blocks numbers

Picture  
#37



Picture #37 mm 45 for Air Survey, Snow seems to stick on signs

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PROJECT Keystone Pipeline - North Spread

SHEET NO. 24 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jo Burke DATE 12-6-10

Mile #46 - 65 St NE

### Comments / Observations

Signs for  $\Phi$  of pipe on both sides of Road.

no subsidence noticed in roadway

Fields on both sides look to have natural flow

no subsidence noticed

new fence posts in place on North side of Road

Picture

#38

Mile #47 - 64 St NE

Sign for  $\Phi$  of pipe on private road, South side only

This goes down to the North branch of the Forest River

No subsidence noticed on either side of River

no erosion noticed.



Picture #38 example of fencing put back in place

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PROJECT Keystone Pipeline - North Spruce

SHEET NO. 25 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jon Burke DATE 12-6-10

Mile # 48 63st NE

### Comments / Observations

Signs for  $\Phi$  of pipe on both sides of Road (minimum maintenance Road)

No subsidence noticed on Roadway

Field on the South side looks to have natural flow

Field on the North looks to also have a natural flow

about 100yds to the north is a RR, sign for  $\Phi$  on both sides of tracks

No subsidence noticed at RR

Mile # 49 62st NE (CR-15)

Signs for  $\Phi$  of pipe on both sides of Road (CR 15)

No subsidence noticed on Roadway.

Fields on both sides look to have natural flow

No subsidence noticed in fields

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PROJECT Keystone Pipeline - North Spear

SHEET NO. 26 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jon Burke DATE 12-6-10

Mile #50 61st NE

### Comments / Observations

Signs for  $\varnothing$  of pipe on both sides of Road

No Subsidence noticed on Roadway

Fields on Both sides of Road look to have natural flow

No Subsidence noticed in Fields

Picture #39 → on the north side of Road about 200' is a enclosed valve station (3) 30x40 b' cham link fence topped with barbed wire, all gates and valves are locked

on the south side is mm 50 for Aircraft

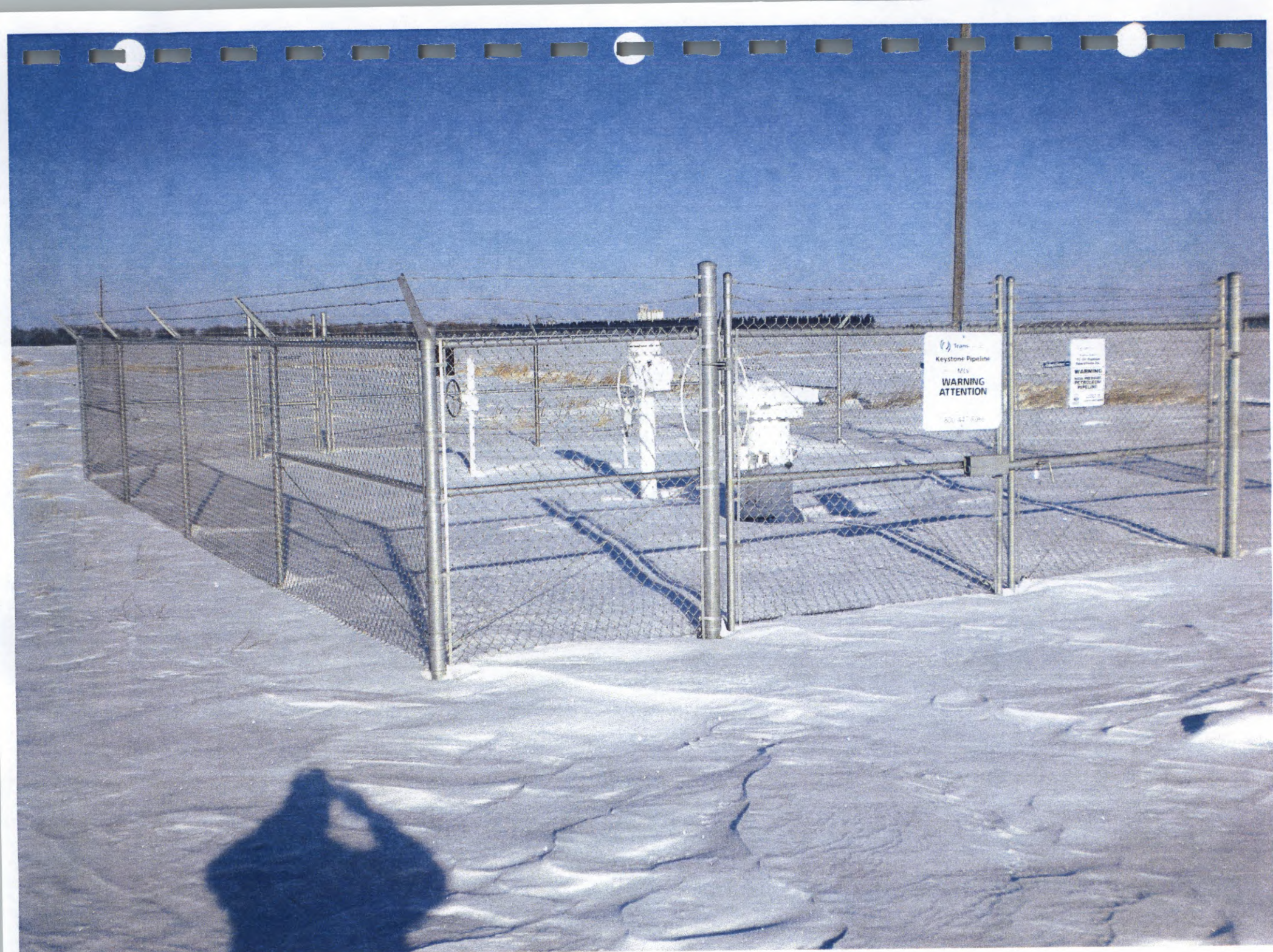
Mile #51 60st NE

Signs for  $\varnothing$  of pipe on both sides of Road

No Subsidence noticed on Roadway

Fields on both sides of Road look to have natural flow

no Subsidence noticed in Fields



Picture #39 Valve station #3 mile 50

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PROJECT Keystone Pipeline - North Spear

SHEET NO. 27 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jon Burke DATE 12-6-10

Mile # 52 59st NE

### Comments / Observations

Signs for  $\Phi$  of pipe on both sides of Road

no Subsidence noticed on Roadway

Fields on both sides of road look to have natural flow

no Subsidence noticed in fields

Mile # 53 58st NE

Signs for  $\Phi$  of pipe on both sides of Road

no Subsidence noticed on Roadway

Fields on both sides look to have natural flow

no Subsidence noticed in fields

Mile # 51 57st NE & CR14

### Comments / Observations

Signs cross CR14 at intersection of 57st NE & CR14  
Signs for  $\varnothing$  of pipe on both sides of Road. CR14  
No subsidence on Roadway  
Fields on both sides of Road look to follow natural flow  
No subsidence noticed in fields

Mile # 55 56st NE

Signs for  $\varnothing$  of pipe on both sides of Road  
No subsidence noticed on Roadway  
North side of Road leads down to middle branch Forest River  
I walked down to the south edge, no subsidence noticed or erosion  
Cover crop well established

Picture #10 → South side of Road has mm55 for Aircraft marker  
Cover crop is well established

Flow of land on both sides looks to have natural flow.



Picture # 40 North side of middle branch Forest River



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Picture #41 mm 55 south side of Road for Air Survey

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SHEET NO. 29 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jon Burke DATE 12-6-10

Mile # 56 53 S1NE (CR 19A)

### Comments / Observations

Signs for  $\perp$  of Pipe on both sides of Road

no subsidence noticed on Roadway

Fields on both sides of Road look to have natural flow

no subsidence noticed in fields

Mile # 57 54 S1NE

Sign for  $\perp$  of Pipe on South side of Road

This is a field road, Walsh Co & Nelson Co. Line

Fields look to have natural flow

no subsidence noticed in fields

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PROJECT Keystone Pipeline - North Spread

SHEET NO. 30 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jon Burke DATE 12-7-10

Mile # 58 53st NE

### Comments / Observations

Signs for  $\Phi$  of pipe on both sides of Road  
No subsidence noticed on Roadway  
Field on both sides look to have natural flow  
no subsidence noticed in fields  
South branch of Forest River between m57 & m58  
I walked down to the South edge of Forest River  
No subsidence or erosion noticed

Mile # 59 52st NE

Signs for  $\Phi$  of pipe on both sides of Road (minimum maintenance Road)  
No Subsidence noticed on Road  
Fields on both sides look to have natural flow  
no subsidence noticed in fields  
RR between m59 & m60 east of Dahlen  
Signs for  $\Phi$  of pipe on both sides of tracks  
no subsidence noticed on RR

Mile # 60 51st NE (CR1)

Comments / Observations

Signs for  $\varnothing$  of pipe on both sides of Road (CR1)

no subsidence noticed on Roadway

Fields on both sides of Road look to follow natural flow of Land

no subsidence noticed in fields

mm 60 on south side of Road for Aircraft Guidance

Picture  
# 42

Mile # 61 50st NE

Signs for  $\varnothing$  of pipe on both sides of Road

no subsidence noticed on Roadway

Fields on both sides of Road look to follow natural flow of Land

no subsidence noticed in fields

There are also signs when ever there is a fence line, drainage area in field or wetland area.



Picture # 42 mm 60 for Air Survey South Side of Road

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PROJECT Keystone Pipeline - North Spine

SHEET NO. 32 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jon Burke DATE 12-7-19

Mile # 62 49st NE

### Comments / Observations

\* Sign for  $\Phi$  of pipe on South side of Road only?

No Subsidence noticed on Roadway

Fields on both sides of Road look to have natural flow of Land

no subsidence noticed in fields

Mile # 63 48st NE

Signs for  $\Phi$  of pipe on both sides of Road

No Subsidence noticed on Roadway

Fields on both sides of Road look to have natural flow of Land

no subsidence noticed in fields

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SHEET NO. 33 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY bn Burke DATE 12-7-10

Mile # <sup>64</sup> - 47st NE

### Comments / Observations

Signs for  $\Phi$  of pipe on both sides of Roadway

no Subsidence noticed on Roadway

Fields on both sides look to have natural flow of Land

no subsidence noticed in fields.

Mile # <sup>65</sup> 46st NE

Signs for  $\Phi$  of pipe on both sides of Roadway

no Subsidence noticed on Roadway

Field to the South looks to have natural flow of land

no Subsidence noticed in field

North side is a small Gully

no Subsidence or erosion noticed

Picture # 43 → mm 65 on South side of Road



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Picture #43 mm 65 for Air Survey on South Side of Road

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SHEET NO. 34 OF 23

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jan Burke DATE 12-7-15

Mile # 66 45st NE

### Comments / Observations

Signs for  $\Phi$  of pipe on both sides of Road (minimum maintenance Rd)

No Subsidence noticed on Roadway

Fields on both sides of Road look to have natural flow of land  
no Subsidence noticed in Fields

Mile # 67 44st NE

Signs for  $\Phi$  of pipe on both sides of Road

no Subsidence noticed on Roadway

Fields on both sides look to have natural flow of land  
no Subsidence noticed

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SHEET NO. 35 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jon Burke DATE 12-7-16

Mile # 68 435+NE

Comments / Observations

Signs for  $\Phi$  of pipe on both sides of (Minimum Maintenance Rd)

No Subsidence noticed on Road

Fields on both sides of Road look to follow natural flow of land

no Subsidence noticed in fields

I walked down to the North branch of turtle river.

no Subsidence noticed

Mile # 69 425+NE

Sign for  $\Phi$  of pipe is on a Grass line in the middle of a field, no road access

Fields North & South of Sign look to follow natural flow of land

no Subsidence noticed

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SHEET NO. 36 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jan Burke DATE 12-7-10

Mile # 75 41st NE (U.S. 2)

### Comments / Observations

Signs for  $\Phi$  of pipe on both sides of (U.S. 2)

No Subsidence noticed on Road

Fields on both sides look to follow natural flow of land

No Subsidence noticed in fields

mm 70 for Aircraft Guidance is on North side of Road

Mile # 71 40st NE

Signs for  $\Phi$  of pipe on both sides of Road

No Subsidence noticed on Roadway

Fields on both sides of road look to have natural flow of land

No Subsidence noticed in fields

1/4 mile north of Road RR, Signs on both sides of tracks

No Subsidence noticed at RR



Picture # 44 mm 70 for Air Survey on North side of Road

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SHEET NO. 37 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jon Burke DATE 12-7-10

Mile # 72 3954 NE

Comments / Observations

Signs for  $\pm$  of pipe on both sides of Road

No Subsidence noticed on roadway

Fields on both sides look to have natural flow of Land

No Subsidence noticed in fields

Mile # 73 3854 NE

No road access to m #73.

Just open field & sloughs

Mile # 74 37 St NE - 1/2 mile from mm 73

Comments / Observations

Signs for  $\Phi$  of pipe on both sides of Road  
no subsidence noticed on Roadway  
Field on North side looks to have natural flow of land  
Field on South side has well established cover crop  
no subsidence noticed in fields

Mile # 75 36 St NE / 124th Ave

Signs for  $\Phi$  of pipe cross road. both sides, 1/2 mile from mm #75  
no subsidence noticed on Roadway  
Fields on both sides look to have natural flow of land  
no subsidence noticed in fields  
mm 75 is out in field - cattails

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SHEET NO. 39 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jon Burke DATE 12-7-10

Mile # 76 35st NE

### Comments / Observations

Sign for  $\odot$  of pipe for mm 76 is about 250' East side of Road

Sign is North side of large slough.

No subsidence noticed through slough area

Picture

# 45

& 46

1/4 mile north of mm 76 is 2<sup>nd</sup> pump station

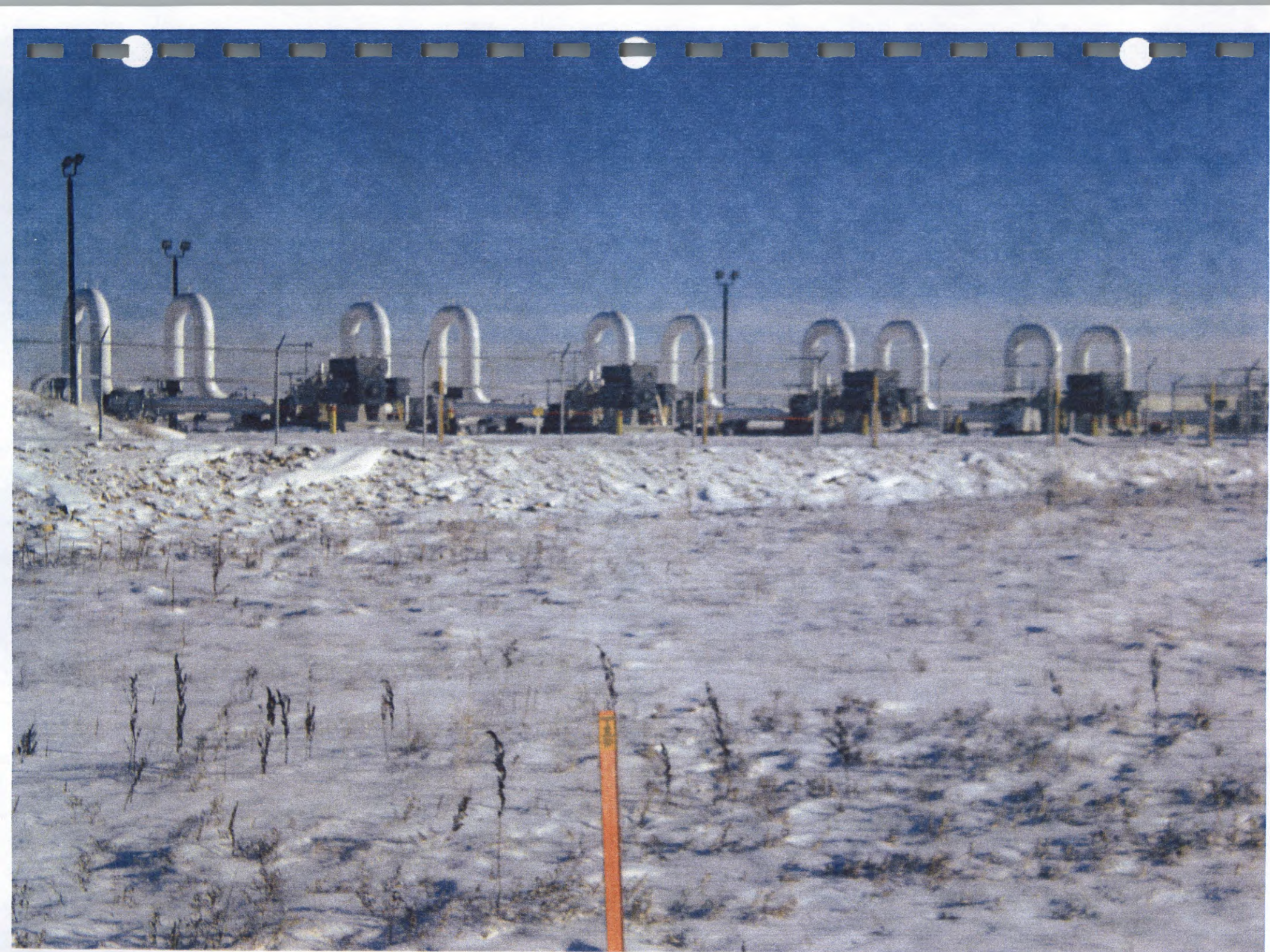
Mile # 77 34st NE (CR-4)

Signs for  $\odot$  of pipe on both sides of Road (CR-4)

No subsidence noticed on Roadway

Field on both sides of Road look to follow natural flow of land

No subsidence noticed on fields



Picture # 45 2nd Pump Station 35st NE mile 76



Picture # 46 2nd Pump Station

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SHEET NO. 40 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jan Burke DATE 12-7-10

Mile # 78 33st NE

### Comments / Observations

Signs for  $\Phi$  of pipe on both sides of Road

No Subsidence noticed on Roadway

Field to the south looks to have natural flow

Field to the north has well established cover crop  
no subsidence noticed.

Mile # 79 32st NE

There is no 32st NE near mm 79

Signs for  $\Phi$  of pipe on Both sides of Private drive (Gilbertson)

No Subsidence noticed on driveway

Fields on both sides look to follow natural flow of land

no subsidence noticed in fields

Mile # 80 31st NE

### Comments / Observations

Signs for  $\Phi$  of pipe on both sides of Road

Pipe crosses intersection of 31st NE and 124th NE

No subsidence noticed at intersection

Pipe follows parallel to 124th NE in a windy pattern around wetlands

Cover crop looks to be well established throughout.

No subsidence noticed through wetlands

mm 80 on North side of 31st NE for Aircraft Guidance

Picture #47

Mile # 81 30st NE

No Access to mm 81. 30st NE

This area goes through wetland area, From 123rd NE I could see through field glasses that cover crop and catails were well established



Picture # 47 mm 80 for Air survey on North side of Road 31<sup>st</sup> NE

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PROJECT Keystone Pipeline - North Spear

SHEET NO. 42 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jon Burke DATE 12-8-10

Mile # 82 30 st NE

### Comments / Observations

Signs for  $\Phi$  of pipe on both sides of low maintenance Rd

No subsidence noticed on roadway

Cover Crop looks to be well established on both sides of Road

no subsidence noticed on fields

Mile # 83 29 st NE

Signs for  $\Phi$  of pipe on both sides of Roadway

no subsidence noticed on Roadway

Fields on both sides of Road look to follow natural flow of land

no subsidence noticed in fields

Mile # 84 28.5+NE

### Comments / Observations

This is a field Road, section line.

There are signs on both sides of this field Road.

No Subsidence noticed on Road.

Field on North is well established cover crop.

Field on South is farmed field - looks to follow flow of land.

No subsidence noticed in fields.

picture  
#48

cover crop throughout pipeline really stands out, compared to existing cover crop.

Mile # 85 27.5+NE (CR 18)

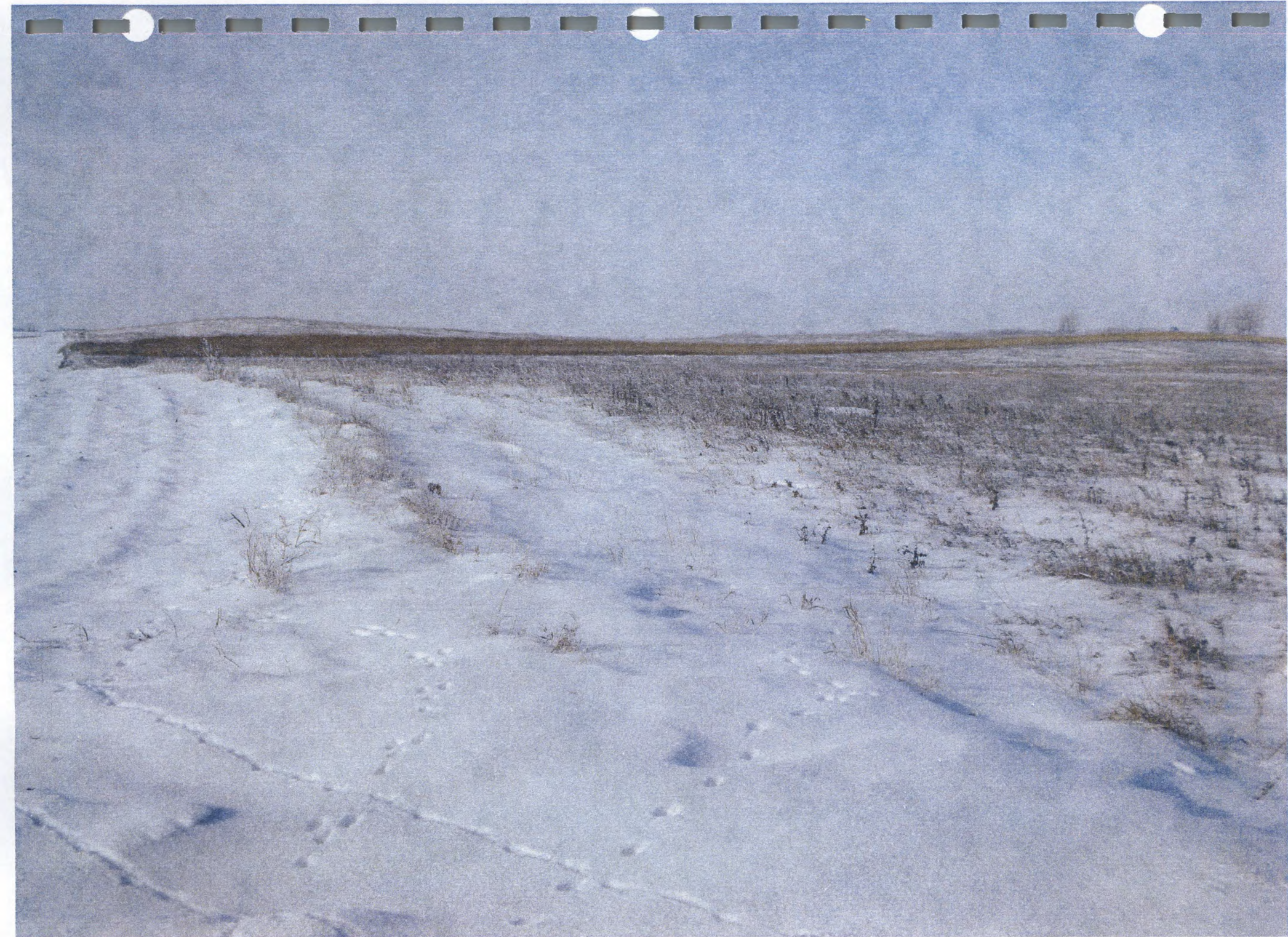
Signs for  $\varnothing$  of pipe on both sides of Road

No subsidence noticed on Roadway

Fields on both sides look to follow natural flow of land

No subsidence noticed in fields.

MMS is on North side of Road about 1/2 mile, along a grass line  
this mile marker is for Aircraft Guide.



Picture # 48 example of how cover crop stands out mm84

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SHEET NO. 44 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jon Burke DATE 12-8-18

Mile # 86 26st NE

### Comments / Observations

No actual Road, this is a grass line, section line.

Signs for  $\Phi$  of pipe on both sides of this section line.

Fields on both sides, Open fields, farmed.

No subsidence noticed in fields, look to follow natural flow of land

Mile # 87 25st NE

Signs for  $\Phi$  of pipe on both sides of low maintenance Rd

no subsidence noticed on roadway

Fields on both sides look to have natural flow of land

no subsidence noticed

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PROJECT Keystone Pipeline - North Spruce

SHEET NO. 45 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jan Burke DATE 12-8-10

Mile # 88 245+NE

### Comments / Observations

Signs for  $\varnothing$  of pipe on both sides of Section line

No Subsidence noticed on Section line

Fields on both sides look to have natural flow of land

No Subsidence noticed in Fields

Mile # 89 235+NE CR-15

Signs for  $\varnothing$  of pipe on both sides of Roadway

No Subsidence noticed on Roadway

Fields on both sides look to have natural flow of land

No Subsidence noticed in Fields

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PROJECT Keystone Pipeline - North Spread

SHEET NO. 46 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jon Burke DATE 12-8-10

Mile # 90 22st NE

### Comments / Observations

Signs for  $\Phi$  of pipe on both sides of Road

No Subsidence noticed on Roadway

Fields on both sides look to follow natural flow of land

no subsidence noticed in fields

Picture  
#49

mm 90 for Aircraft Guide is on south side of Road

Mile # 91 21st NE

Signs for  $\Phi$  of pipe on both sides of Road

No Subsidence noticed on Roadway

Fields on both sides look to have natural flow of land

no subsidence noticed in fields



Picture # 49 mm 90 for Air survey south side of Road 22nd St NE

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SHEET NO. 47 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jan Burke DATE 12-8-10

Mile # <sup>92</sup> 20 St NE

### Comments / Observations

Signs for  $\Phi$  of pipe on both sides of Road

no subsidence noticed on Roadway

Fields on both sides look to follow natural flow of land

no subsidence noticed in Fields

Mile # <sup>93</sup> 19 St NE (CR-20)

Signs for  $\Phi$  of Pipe on both sides of Road

\* Sign for  $\Phi$  of pipe on north side not there, post is

No subsidence noticed on Roadway

Fields on both sides look to have natural flow of land

no subsidence noticed in Fields

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SHEET NO. 48 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jon Burke DATE 12-8-10

Mile # 94 185+NE

### Comments / Observations

No road access to this mm 94  
Section Line, Grass line  
Signs on both side of line  
Fields look to follow natural flow of Land

Mile # 95 175+NE

Signs for  $\varnothing$  of pipe on both sides of Road  
No subsidence noticed on Roadway  
Fields on both sides look to follow natural flow of land  
no subsidence noticed on Fields

Picture

#50

Picture

#57

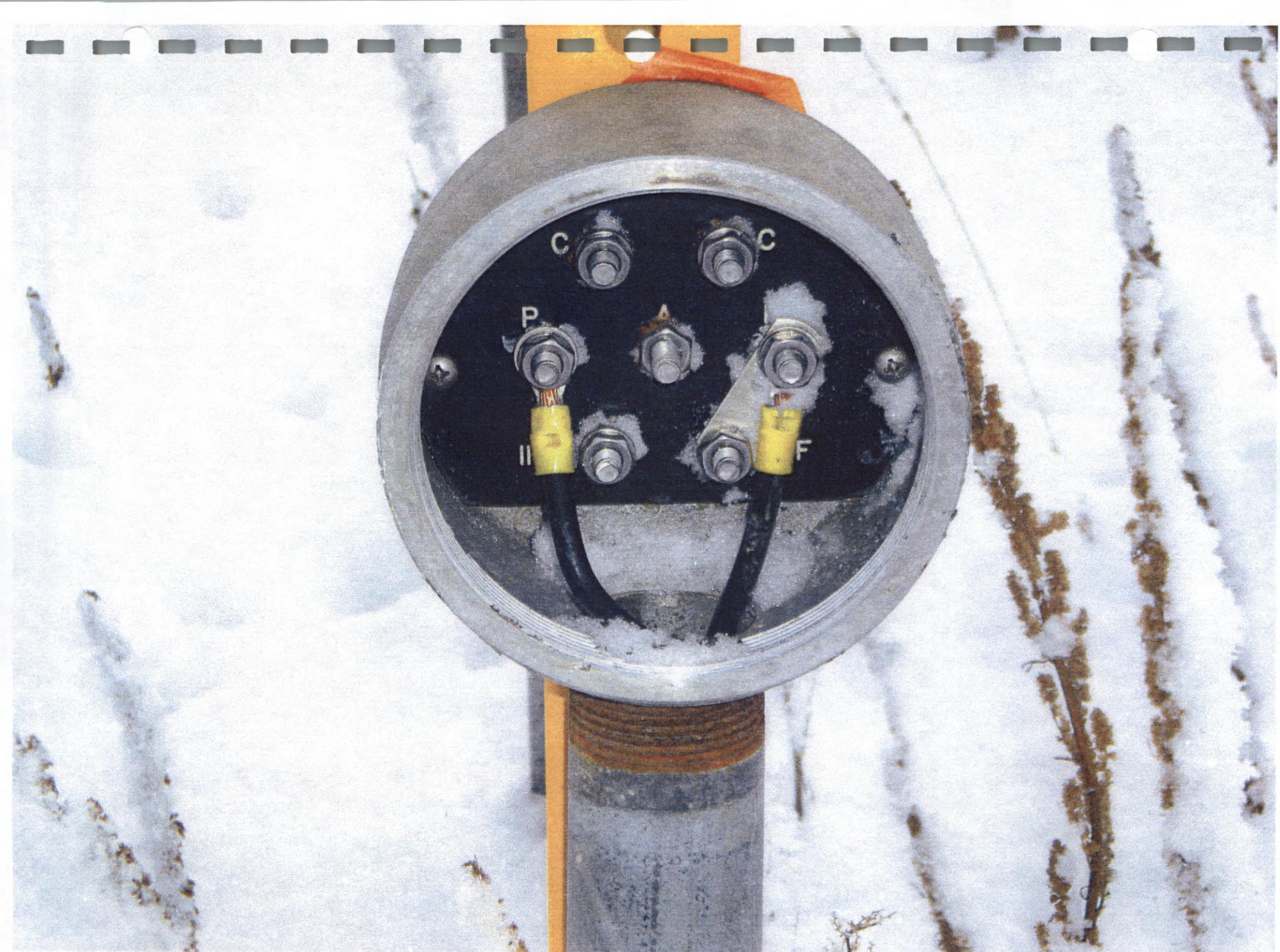
→ mm 95 on south side of Road for Aircraft Guide  
~~cap missing on post at mm 95 sign~~



95

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Picture #.50 mm 95 for Air Survey 17<sup>th</sup> St/NE Notice Cap missing



Picture # 51 Cap missing mm 95 17<sup>th</sup> St NE

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PROJECT Keystone Pipeline - North Spine

SHEET NO. 49 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jon Burke DATE 12-9-10

Mile # 96 165th NE

### Comments / Observations

No roads to M M 96, This is a section line  
Signs for  $\Phi$  of pipe on both sides of shelterbelt  
No subsidence noticed on both sides of field  
Field looks to follow natural flow of land

Mile # 97 155th NE

Signs for  $\Phi$  of pipe on both sides of Road  
No subsidence noticed on Roadway  
Pipe crosses RR on North side of Road about 400' away  
Signs for  $\Phi$  of pipe on both sides of RR  
No signs of subsidence on RR traxs  
Fields on both sides look to have natural flow of Land

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PROJECT Keystone Pipeline - North Spear

SHEET NO. 50 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jon Burke DATE 12-9-10

Mile # 98 14 St NE

### Comments / Observations

This is a minimum maintenance Road  
Signs for  $\Phi$  of pipe on both sides of Road  
no subsidence noticed on Road  
Fields on both sides look to follow natural flow of land  
no subsidence noticed in fields

Mile # 99 13 St NE (Hwy 32)

Signs for  $\Phi$  of pipe on both sides of Road  
No subsidence noticed on Roadway  
Fields on both sides of road look to follow natural flow of land  
No subsidence noticed in fields

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SHEET NO. 51 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jon Burke DATE 12-9-10

Mile # 100 12 ST NE

### Comments / Observations

Signs for  $\varnothing$  of pipe on both sides of Road - Minimum maintenance Rd

No subsidence noticed on Road

Fields on both sides look to follow natural flow of Land

No subsidence noticed in fields

Picture

F52

→ On the South side of Road is mm 100 for Aircraft Guide

Picture

F53

→ Also on South side of Road is Automatic Shut off Valve station

Mile # 101 11 ST NE

Signs for  $\varnothing$  of pipe on both sides of Road

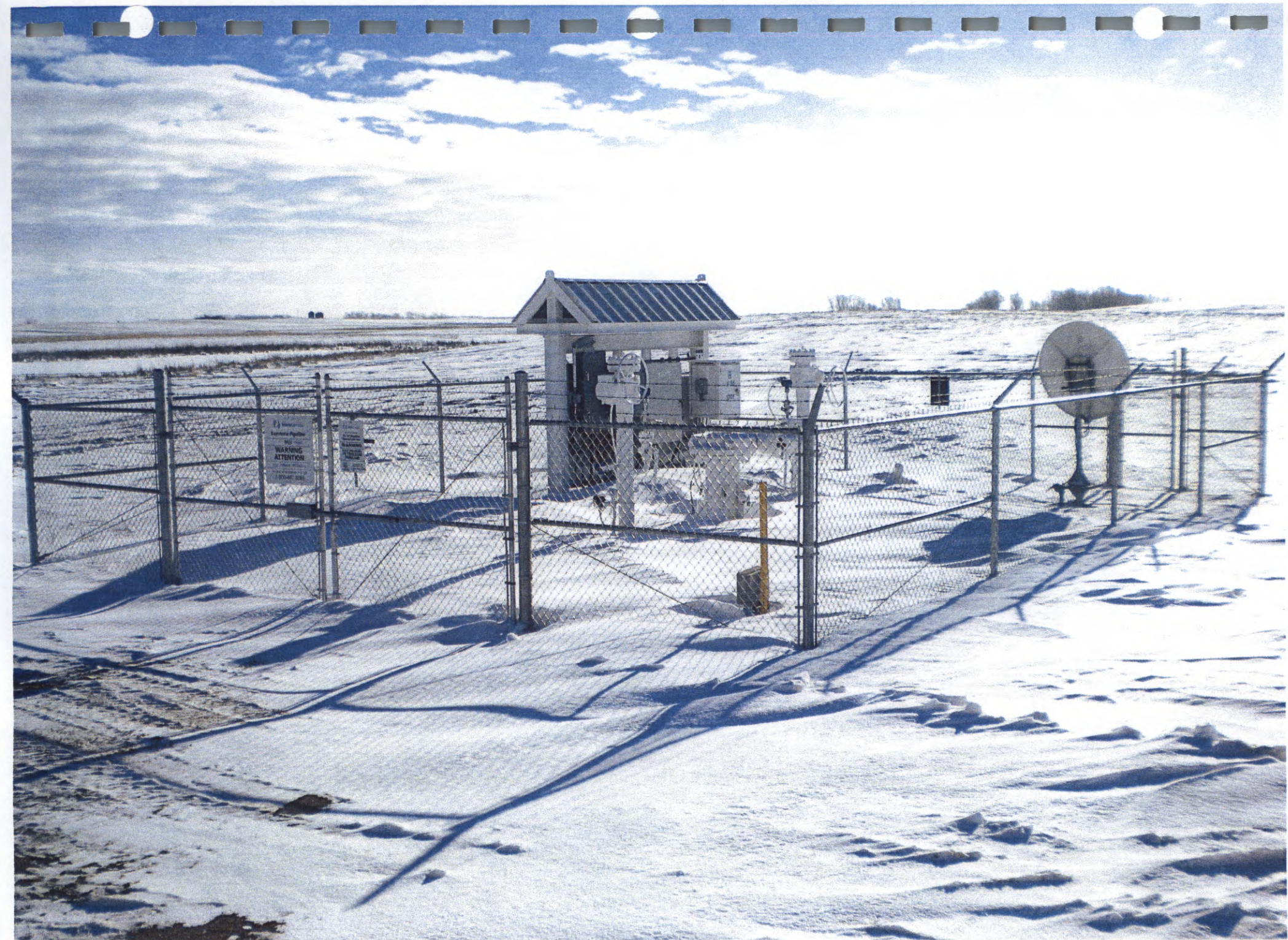
No subsidence noticed on Road

Fields on both sides look to follow natural flow of Land

No subsidence noticed in fields



Picture #52 mm 100 for Air Guide South Side of Road



Picture # 53 Automatic shot off station 3<sup>rd</sup> one mm 100

Mile # 102 105+NE

Comments / Observations

This is a field Road, section line  
Sign for Q of pipe on South side of field  
Field on both sides look to follow natural flow of land  
no subsidence noticed in fields

Mile # 103 95+NE

Signs for Q of pipe on both sides of Minimum Maintenance Rd  
No subsidence noticed on Roadway  
Fields on both sides of road looks to follow natural flow of land  
no subsidence noticed in fields

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PROJECT Keystone Pipeline - North Spruce

SHEET NO. 53 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jan Berke DATE 12-9-10

Mile # 104 8th NE

### Comments / Observations

Signs for  $\Phi$  of pipe on both sides of Road

no subsidence noticed on roadway

Fields on both sides of Road look to have natural flow of land

no subsidence noticed in fields

Mile # 105 7th NE (CR-18)

Signs for  $\Phi$  of pipe on both sides of Road

no subsidence noticed on Road

Fields on both sides of Road look to follow natural flow of Land

no subsidence noticed in fields

Picture  
# 54

→ Sign for MM 105 for Aircraft Guide on North side of Road



Picture # 54 mm 105 for Air survey North side CR-18

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SHEET NO. 54 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jan Burke DATE 12-9-10

Mile # 106 6 st NE

### Comments / Observations

Signs for  $\Phi$  of pipe on both sides of Road

no subsidence noticed on roadway

Fields on both sides of field look to follow natural flow of land

no subsidence noticed in fields

Mile # 107 5 st NE

Signs for  $\Phi$  of pipe on both sides of Road

no subsidence noticed on roadway

Fields on both sides of field look to follow natural flow of land

no subsidence noticed in fields

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PROJECT Keystone Pipeline - North Spread

SHEET NO. 55 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jon Burke DATE 12-9-10

Mile # 108 4th NE

### Comments / Observations

Signs for  $\Phi$  of pipe on both sides of Road

no subsidence noticed on Roadway

Fields on both sides look to follow natural flow of land

no subsidence noticed in Fields

Mile # 109 3rd NE

no Road Access, this is a Section Line

there is a sign on the south side of Section Line

no subsidence noticed in Fields

Fields look to follow natural flow of land

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SHEET NO. 56 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jon Burke DATE 12-9-10

Mile # 110 2nd St NE - (Hwy 200)

### Comments / Observations

Signs for  $\Phi$  of pipe on both sides of Road (Hwy 200)

No Subsidence noticed on Roadway

Fields on both sides look to follow natural flow of land  
no subsidence noticed in fields

Picture #55 → Sign for MM 116 for Aircraft Guide on North Side of Road

Mile # 111 1st NE

Signs for  $\Phi$  of pipe on both sides of Road

no subsidence noticed on Road

Fields on both sides of Road look to follow natural flow of land  
no Subsidence noticed in fields



Picture # 55 mm 110 for Aircraft on North Side of Road Hwy 200

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SHEET NO. 57 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jon Burke DATE 12-9-10

Mile # 112 main st

### Comments / Observations

This is a field Road, section line

Sign for  $\Phi$  of pipe on South side of section line

fields on both sides look to follow natural flow of land

Mile # 113 1st SE

Signs for  $\Phi$  of pipe on both sides of Road.

No subsidence noticed on Road

Fields on both sides look to follow natural flow of land

No subsidence noticed in fields

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SHEET NO. 58 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jan Burke DATE 12-9-10

Mile # 114 2 St SE

Comments / Observations

No Access, This is a section line

Sign for  $\Phi$  of pipe on south side of section line

Fields look to follow natural flow of land

no subsidence noticed.

Mile # 115 3 St SE

Comments / Observations

Signs for  $\Phi$  of pipe on both sides of Minimum Maintenance Rd.  
no subsidence noticed on Road

Fields on both sides of Road look to follow natural flow of land  
no subsidence noticed in Fields

Picture

# 56

mm 115 for Aircraft Guide is on North Side of Road



Picture #56 mm 115 for Air Survey on North side of Road 3rd St SE

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SHEET NO. 59 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jon Burke DATE 12-13-10

Mile # 116 - 4 St SE

### Comments / Observations

Signs for  $\Phi$  of pipe on both sides of Road

no subsidence noticed on Road

Fields on both sides look to follow natural flow of land

no subsidence noticed in fields

on South side of road  $\frac{1}{4}$  mile, Service road for windmills also has signs on both sides of road.

no subsidence noticed on road or fields

Mile # 117 - 5 St SE

No road access, this is a section line, #28 - Township 14S N

Signs for  $\Phi$  of pipe on both sides of a shelterbelt

no subsidence noticed in fields

Fields on both sides of shelterbelt look to follow natural flow of land

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SHEET NO. 60 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jan Burke DATE 12-13-10

mile # 118 6st SE (CR-5)

Comments / Observations

Signs for  $\text{E}$  of pipe on both sides of CR-5

no subsidence noticed on Road

Fields on both sides of road look to follow natural flow of land

no subsidence noticed in fields

mile # 119 7st SE - section #5 - Township 144 N

Signs for  $\text{E}$  of pipe on both sides of minimum maintenance Road

no subsidence noticed on Road

Fields on both sides of Road look to follow natural flow of land

no subsidence noticed in fields

Kadmas

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Jackson

Engineers Surveyors  
Planners

PROJECT Keystone Pipeline - North Spruce

SHEET NO. 61 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jon Burke DATE 12-13-10

Mile # 120 8th SE - Section #8 Township 144 N

### Comments / Observations

Signs for  $\Phi$  of pipe on both sides of Road

no subsidence noticed on roadway

Fields on both sides look to follow natural flow of Land

no subsidence noticed in fields

Picture #57

Sign for mm 120 for Aircraft Guide is on north side of Road

Mile # 121 9th SE - Section 17 - Township 144-N

Signs for  $\Phi$  of pipe on both sides of minimum maintenance Road

no subsidence noticed on roadway

Fields on both sides of road look to follow natural flow of land

no subsidence noticed in fields

120

TransCanada  
Keystone Pipeline  
TC Oil Pipeline  
Operations Inc.  
**WARNING**  
**HIGH PRESSURE**  
**PETROLEUM**  
**PIPELINE**  
IN CASE OF AN  
EMERGENCY CALL  
1-800-447-8066

Picture # 57 mm 120 for Air Survey on north side of Road 8<sup>th</sup> St SE

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PROJECT Keystone Pipeline - North Spread

SHEET NO. 62 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jan Burke DATE 12-13-10

Mile #122 - 10 st SE - section #21, township 144 N

### Comments / Observations

Signs for  $\Phi$  of pipe on both sides of Minimum Maintenance Rd  
no subsidence noticed on Roadway  
Fields on both sides look to follow natural flow of land  
no subsidence noticed in fields  
pipe is starting to wind around sloughs, mile markers on map do not  
line up with straight line miles.

Mile #123 - 11 st SE - section #28, township 144 N

Signs for  $\Phi$  of pipe on both sides of Road  
no subsidence noticed on Roadway  
Fields on both sides road look to follow natural flow of land  
no subsidence noticed in fields  
Pump station is on North side of Road,

Picture  
#18



Picture # 58 Pump station 3rd one 11th St SE

Mile # 124 12 st SE section #33, Township 144 N

### Comments / Observations

Minimum maintenance Road,  
Signs for  $\phi$  of pipe in shelterbelt just south of RR tracks  
no Subsidence noticed on fields or RR tracks.  
Fields look to follow natural flow of land  
~~\*~~ on map that I have, this shows it at mm 125

Mile # 125 13 st SE section #4 - Township 143 N

This is a section line #4 - Township 143 N

There is a service road for windmills marked Wat 3 - 248.250

Picture #60 → There are laths on both sides of road that mark  $\phi$  of pipe  
no signs

Picture #59 → m m 125 for Aircraft is on North side of service road

no Subsidence noticed on service road

Field on both sides look to follow natural flow of land  
~~\*~~ on my map I have it at m m 126

Mile # 126 14 St SE & 122 Ave SE - Section # 9 & 17, Township 143 N

Comments / Observations

Signs for  $\Phi$  of pipe cross 14 St SE & 122 Ave SE

Section # 9 & 17, Township 143 N

no subsidence noticed at intersection

Fields on both sides of Road look to follow natural flow of land

no subsidence noticed in fields

~~X~~ on my map It shows this as mm 127

Mile # 127 15 St SE - Section # 17 - township # 143 N

Signs for  $\Phi$  of pipe on both sides of Road

no subsidence noticed on Road

Fields on both sides of road look to have natural flow of land

no subsidence noticed in fields

~~X~~ on my map it shows this as mm 128

Mile # <sup>128</sup> 16st SE - Section #20, Township 143 N

Comments / Observations

Signs for  $\Phi$  of pipe on both sides of road, section #20 - Township 143 N  
no subsidence noticed on Road

Fields on both sides of road look to follow natural flow of land  
no subsidence noticed in fields

\* My map shows this at MM 129

Mile # <sup>129</sup> 121 A USE & 17st SE, Section #30, Township 143 N

Signs for  $\Phi$  of pipe cross 121 A USE, Section 29 to Section 30, Township 143 N  
Just North of 17st SE

no sign of subsidence noticed on Road.

Fields on both sides look to follow natural flow of land  
no subsidence noticed in fields

\* My map show this at MM 130

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PROJECT Keystone Pipeline - North Spruce

SHEET NO. 66 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jon Burke DATE 12-14-10

Mile # 130 - 18 st SE - Section # 31 - Township 143 N

### Comments / Observations

Signs for  $\text{E}$  of pipe on both sides of Road - paved Road

no subsidence noticed on Road

Fields on both sides of road look to follow natural flow.

no subsidence noticed in fields

Picture # 61

Mile marker 130 for Aircraft on South side of Road

Picture # 62

Value (1) on North side of road, 30x40 Chain link fence

Value and gate locked up

~~X~~ my map shows this as MM 131

Mile # 131 19 st SE section # 6 - Township 142 N

Signs for  $\text{E}$  of pipe on both sides of Road

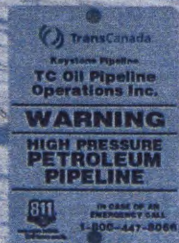
no subsidence noticed on Road

Fields on both sides of road look to follow natural flow

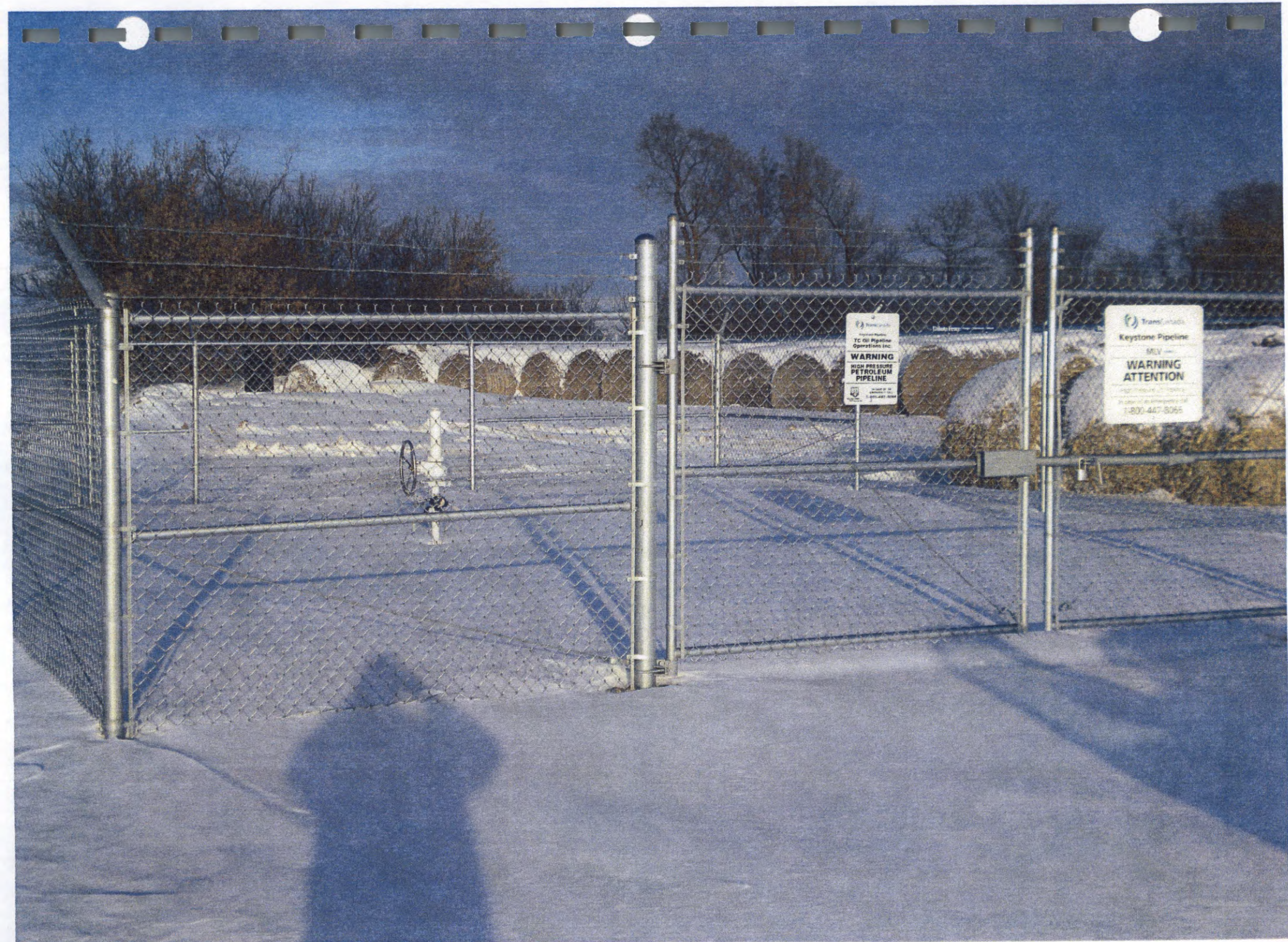
no subsidence noticed in fields

~~X~~ my map shows this as MM 132

130



Picture # 61 mm 130 for Air Survey south side of Road - 18st SE



Picture # 62 Single Valve North side of 18th St SE



Picture #59 mm 125 for Air Survey on North side of Rd



Picture #60 No signs, these are service roads to windmills./There could be more like this. I could not get to all service  
ADS

Mile # 132 20st SE - Section line # 7, Township 142 N

### Comments / Observations

This is a fence line, no road.

Sign for  $\phi$  of pipe is on north side of fence, Grass line

Fields on both sides of fence look to follow natural flow

no subsidence noticed in fields

\* my map shows this as mm 133

Mile # 133 21st SE Section line # 18, Township 142 N

Signs for  $\phi$  of pipe on both sides of Road

no subsidence noticed on Road

Field on North side is a pasture, looks like all fences have been  
put back up, looks to follow natural flow

Field on South side looks to follow natural flow of land

no subsidence noticed on either side

\* my map shows this as mm 134

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SHEET NO. 68 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jon Burke DATE 12-15-10

Mile # ~~134~~ <sup>(135)?</sup> 22 St SE Section line 19 - Township 142 N

### Comments / Observations

This is a section line, no roads.

Picture # 63

→ There is mm 135 for Aircraft? this is only 4 miles from mm 130  
I first noticed something out of place at mm 125, which was at mm 126, and mm 130 at mm 131.

This mile marker is on the north side of a slough  
no signs on either side of slough

no subsidence noticed in fields or slough  
I feel mm 125 & mm 130 are out of place,

Mile # ~~136~~ <sup>136</sup> 23 St SE Section 30 - Township 142 N

Signs for  $\frac{1}{2}$  of pipe on both sides of Road

No Subsidence Noticed on Roads

Fields on both sides of road look to follow natural of land

No Subsidence noticed in Fields



Picture # 63 mm 135 for Air survey . north side of Slough no road. Read comments, about mile markers

Mile #137 - 24 St SE Section # 31, Township 142 N

Comments / Observations

Picture #64 → Signs for  $\Phi$  of pipe on both sides of Road,  
these signs are in Cattails, hard to find,  
Pipe goes through Slough  
no subsidence noticed on road or through slough  
Fields on both sides look to follow natural flow of land

Mile #138 25 St SE section #6 Township 141 N

Sign for  $\Phi$  of pipe is on Section line,  
Fields on both sides look to follow natural flow of land  
no subsidence noticed in fields



Picture # 64 Signs on both sides of Road 24<sup>th</sup> St SE are hard to See

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PROJECT Keystone Pipeline - North Spruce

SHEET NO. 70 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jon Burke DATE 12-15-10

Mile # 139 <sup>(140)?</sup> 26st SE - Section 8, Township 141 N

Comments / Observations

Signs for  $\Phi$  of pipe on both sides of Road  
no subsidence noticed on Road


Fields on both sides look to follow natural flow of land  
no subsidence noticed in fields

Picture 65 → There is a mm 140 sign on South side of Road,  
This is only 4 miles from mm 135 at 22st SE? ~~###~~

Mile # 141 27st NE Section 17, Township 141 N

~~X~~ No access to this area due to snow  
I had this as mm 140 on map

140

 TransCanada  
Keystone Pipeline  
TC Oil Pipeline  
Operations Inc.  
**WARNING**  
HIGH PRESSURE  
PETROLEUM  
PIPELINE  
IN CASE OF AN  
EMERGENCY CALL  
1-800-447-8068

Picture #65 mm140 for Air Guide, south side of Road 26th St SE - See Comments

mile # 142 28 st SE section 20, Township 141 N

**Comments / Observations**

Signs for  $\Phi$  of pipe on both sides of Road

No subsidence noticed

Fields on both sides of road look to follow natural flow of land

no subsidence noticed

~~X~~ I had this marked as mm 141 on map

mile # 143 29 st SE - section 29, Township 141 N

Sign for  $\Phi$  of pipe is about 300' west of 122nd St no road

one sign in grassy area

no subsidence noticed in area

Fields on both side of sign look to follow natural flow land

~~X~~ I had this marked as mm 142 on map

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SHEET NO. 72 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jon Burke DATE 12-15-10

Mile # 144 30 st SE Section 32, Township 141 N

### Comments / Observations

Signs for  $\Phi$  of pipe on both sides of Road

no subsidence noticed on Road

Fields on both sides of Road look to follow natural flow

no subsidence noticed in fields

✓ I had this marked as mm 143 on map

Mile # 145 31 st SE, Section 6, Township 140 N

Signs for  $\Phi$  of pipe on both sides of minimum maintenance Road

no subsidence noticed on Road

Fields on both sides look to follow natural flow of Land

no subsidence noticed

✗ no mm sign 145 for Aircraft, It is 5 miles from 26 st SE mm 140  
I had this marked as mm 144 on map

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SHEET NO. 73 OF 73

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

CHECKED BY Jon Burke DATE 12-15-10

Mile # 146 32 St SE section 7, Township 146 N

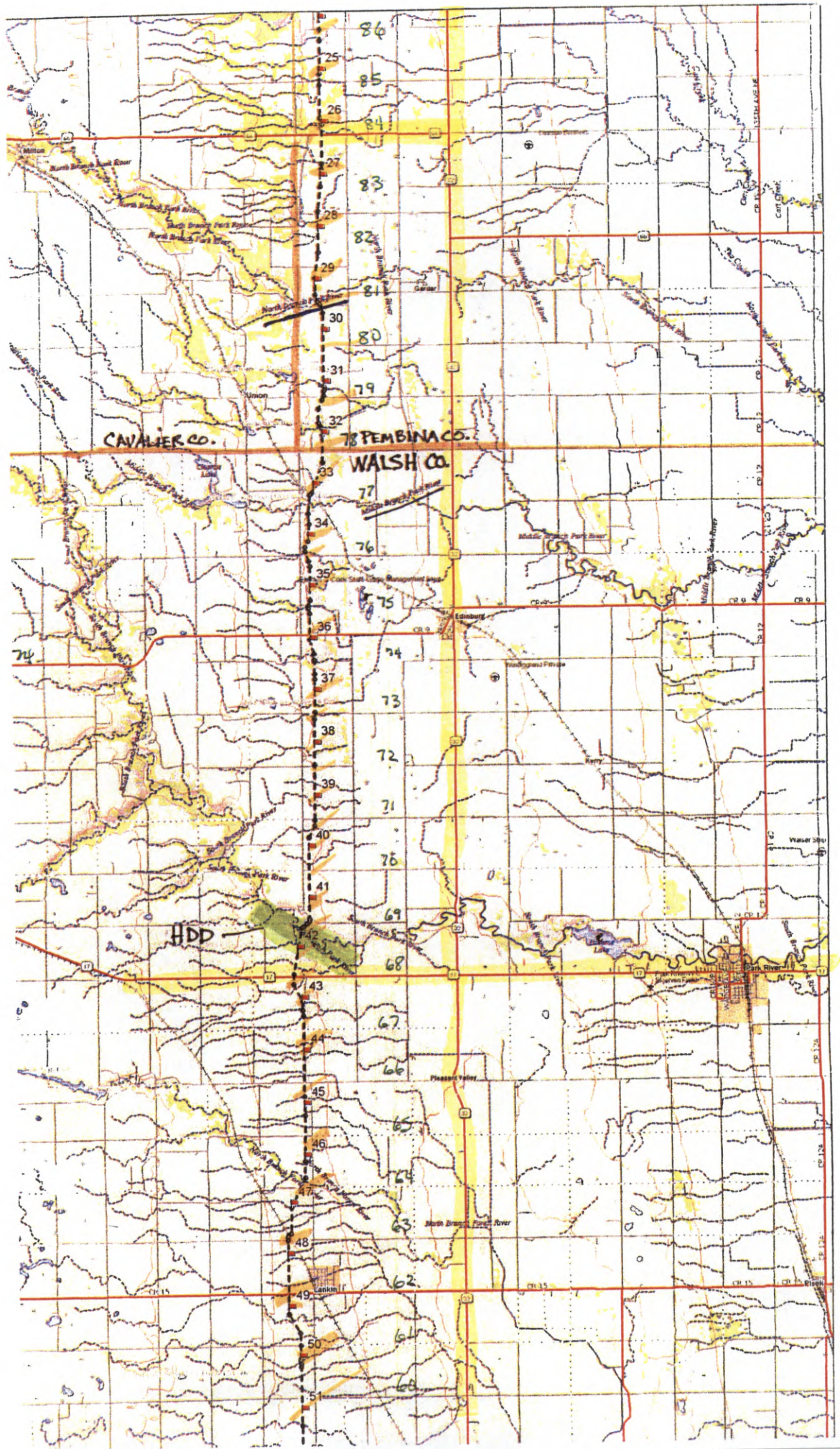
Comments / Observations

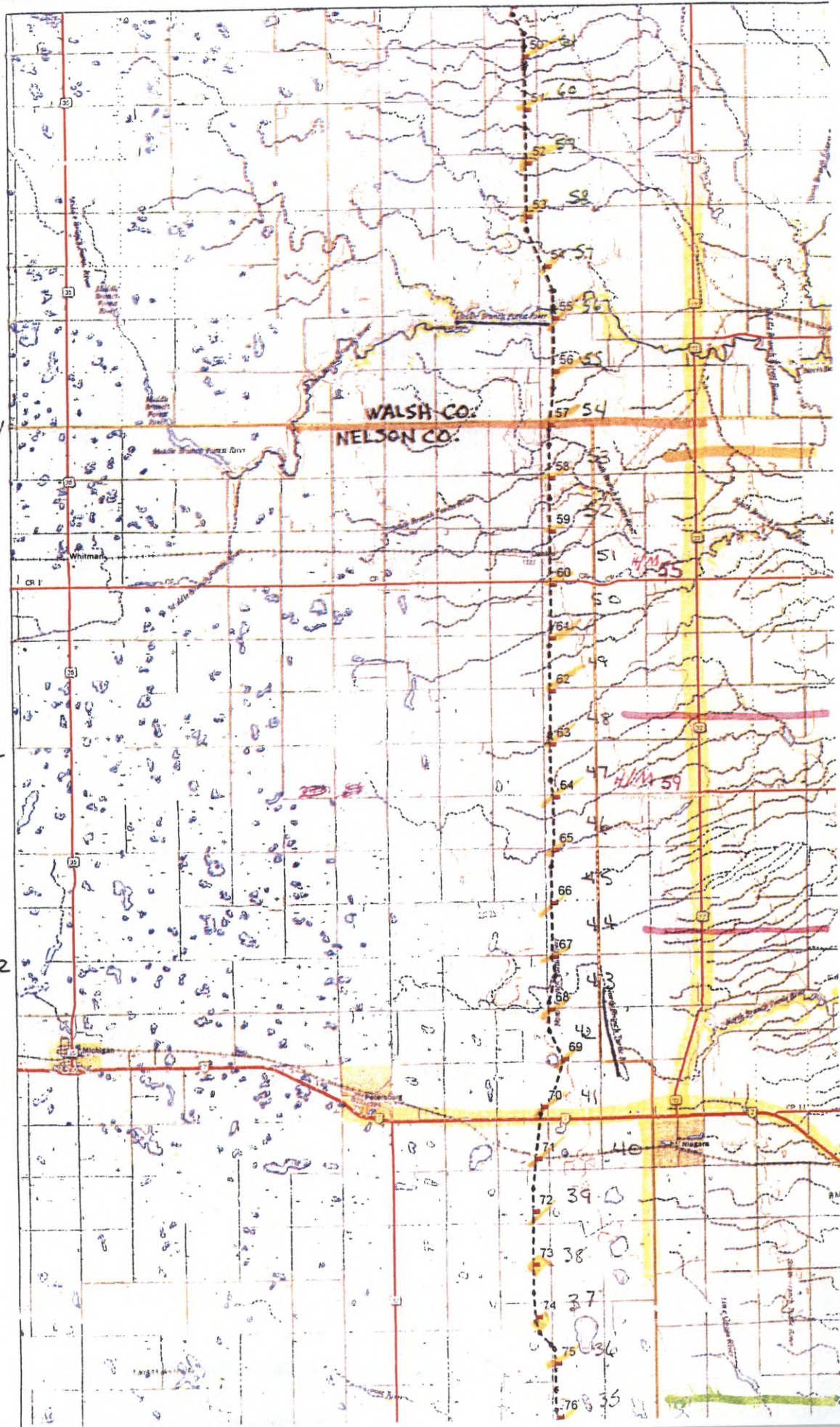
Cannot Get to Sign, its 1/2 mile along shelterbelt, snow too deep  
I can see one sign at end of shelterbelt for E of pipe

~~\*~~ (Also sign MM 145 for Aircraft. This 5 mile marker is 6 miles  
from MM 140 sign on 26 St SE?)

Mile # \_\_\_\_\_



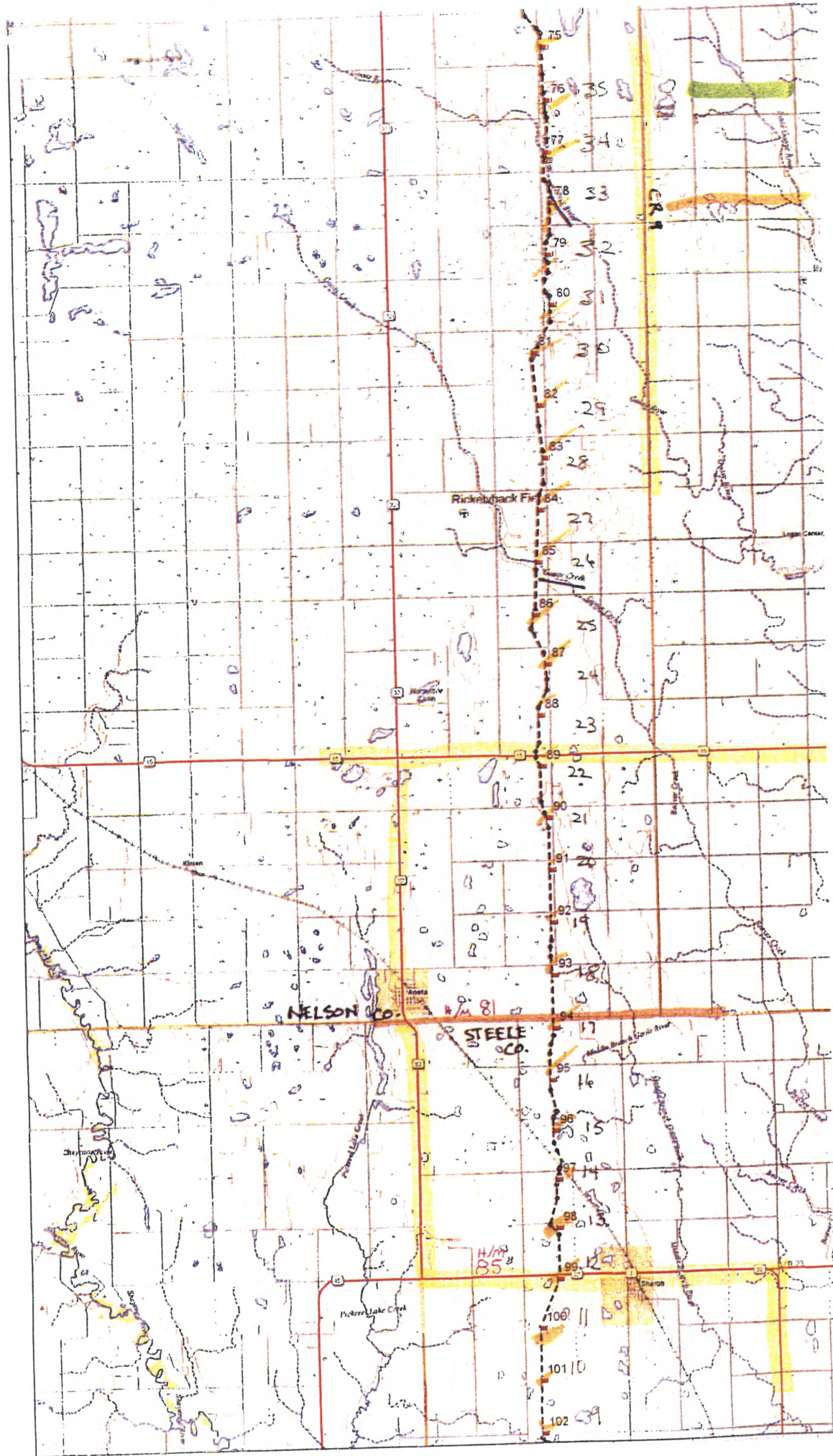


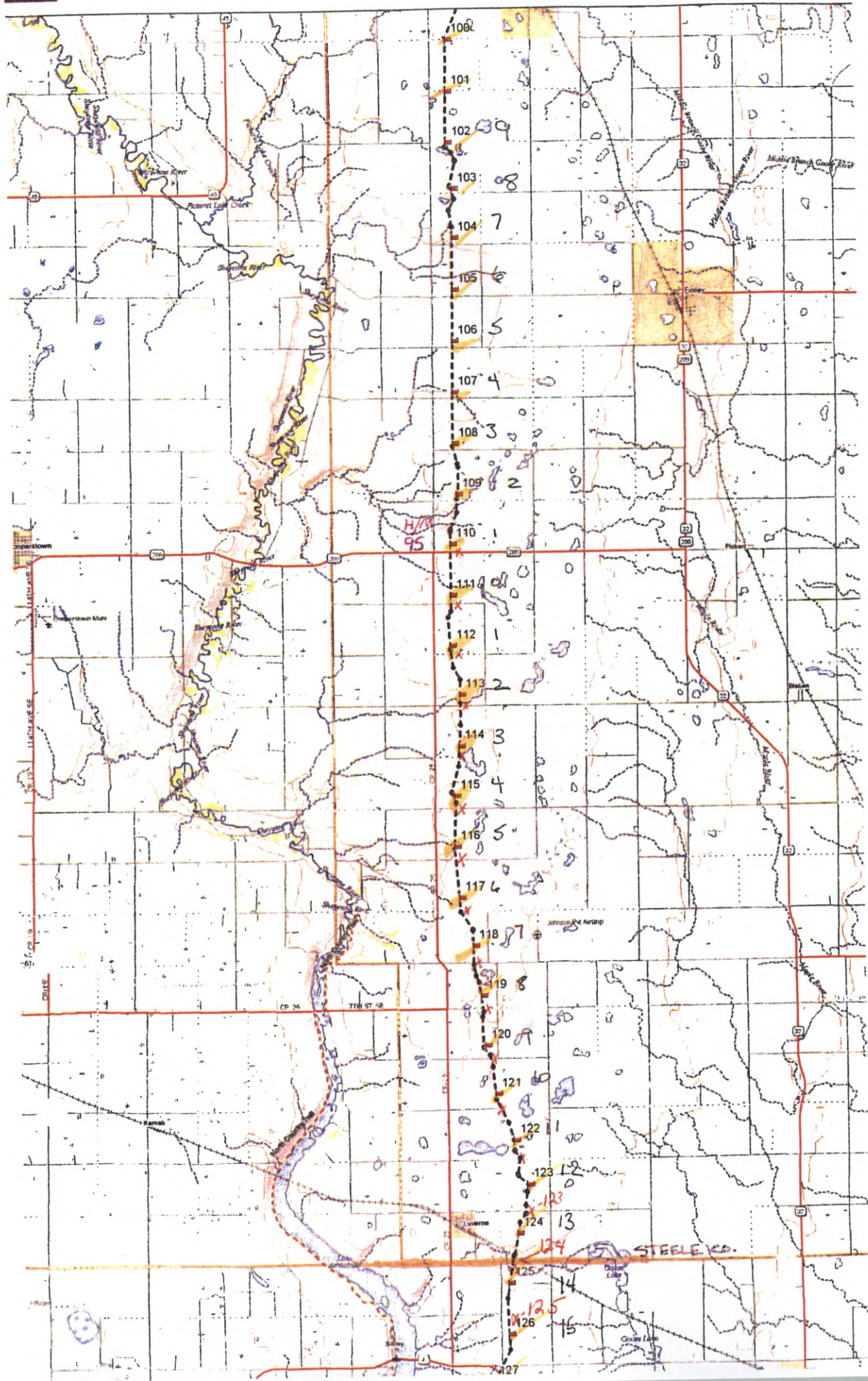


139.4 130.7 128.4

145.2  
Fenced on  
N. side.

149.2  
Fenced on  
S. side





mm 125 13st BE

5 m

mm 130 - 18st SE

4 m

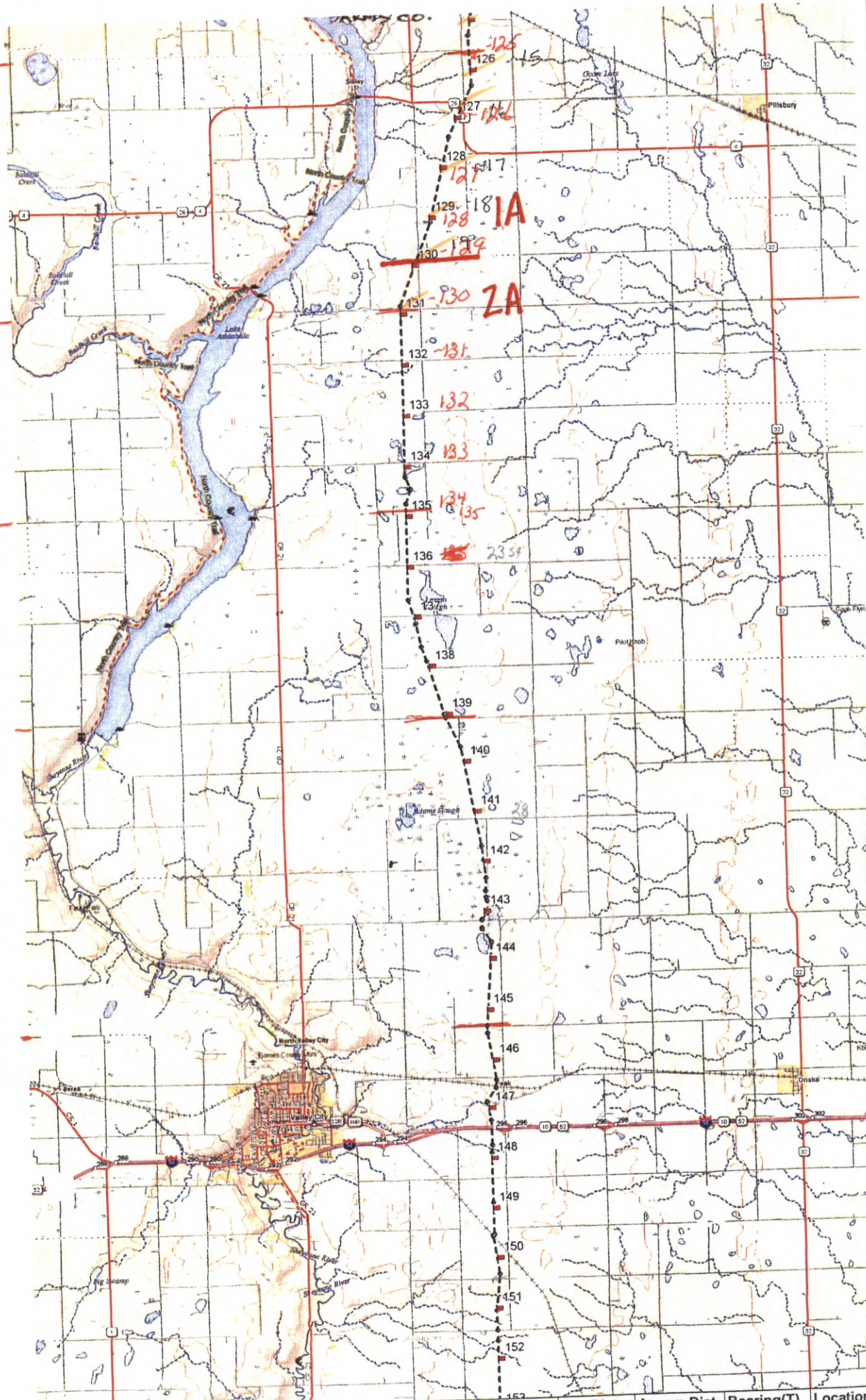
mm 135 22st SE

4 m

mm 140  
26st SE

6 m

mm 145 32st SE  
Stopped inspection  
at mm 145  
12-15-10



To	Leg Dist	Accum Dist	Bearing(T)	Location
Finish	694.75 mi	0.00 mi	171° (S)	N49° 0.027