



November 12, 2004

File: 15-16-187

Alberta Transportation  
2<sup>nd</sup> Floor, Twin Atria Building  
4999-98 Avenue  
Edmonton, AB, T6B 2X3

Attention: Mr. Fred Cheng, P.Eng.

**PEACE REGION (PEACE RIVER / HIGH LEVEL)  
GEOTECHNICAL INSTRUMENTATION SUMMARY  
FALL 2004**

Dear Sir:

Attached please find Table 1, which provides an updated summary of the geotechnical instrumentation currently being monitored by Thurber in the Peace Region (Peace River/High Level) area. For your information, we read 125 instruments (100SIs, 25Pzs) in the fall 2004 and are planning to read 123 instruments (98SIs, 25Pzs) in spring 2005.

Our plan is to update the attached table again following the spring 2005 readings to help track and project the budget for this project.

If any questions arise please contact the undersigned.

Yours very truly  
Thurber Engineering Ltd.  
D. W. Proudfoot, P.Eng.  
Review Principal

Mr. V. Bijeljanin, E.I.T  
Project Engineer

cc: Mr. Roger Skirrow, P.Eng  
Mr. Ed Szmata, P.Eng

Alberta Transportation  
Alberta Transportation  
(1 CD containing GTL files)

**TABLE 1  
PEACE REGION (PEACE RIVER / HIGH LEVEL)  
FALL 2004 INSTRUMENTATION SUMMARY**

LOCATION	CURRENT INSTRUMENTATION	RECOMMENDED ADDITIONAL INSTRUMENTS	NEW INSTRUMENTS ADDED	INSTRUMENTS DELETED FROM READING SCHEDULE	RECOMMENDATION	CURRENT TOTAL NUMBER OF INSTRUMENTS	NUMBER OF INSTRUMENTS READ IN FALL 2004 ( SEMI-ANNUAL AND ANNUAL READINGS)	NUMBER OF INSTRUMENTS TO READ IN SPRING 2004 (SEMI-ANNUAL READINGS ONLY)
PH1A: HWY 2:68 Dunvegan Hill South	SI# 22, 27, 27A, 27B, 28A, 29, 29A, 30, 30A, 30B, 43, 54, 55, 56, 57, 58, 59, 61, 62, 66, 01-1, and 01-2 PZ# 26762, 26769	None	None	None	- Read instruments semi-annually - Repair SI# 43	24 (22SIs, 2PZs)	23 (21SIs, 2PZs)	24 (22SIs, 2PZs)
PH2: HWY 2:60 Peace River East Hill	SI# 06, 12, 13, 63, 64, 67, 69, 75, 81, 82, 88, 89, 91, 99, and 105 PZ# 26205, 26207, 26210, SP003, and SP004	None	None	None	- Read instruments semi-annually - Recommend to delete SP002, since it could not be located in the field.	20 (15SIs, 5PZs)	20 (15SIs, 5PZs)	20 (15SIs, 5PZs)
PH4: HWY 682:02 West of Fairview	SI# 004 PZ# 26076, 26211, 26216, and SP004	None	None	None	- Read instruments semi-annually	5 (1SIs, 4PZs)	5 (1SIs, 4PZs)	5 (1SIs, 4PZs)
PH5: HWY 35:08 Meikle River	SI# 4, 21, 27, 42, 45, 49, 50, 51, 63, and 64 PZ# 18146	None	None	None	- Read instruments semi-annually - Repair SI# 50	11 (10SIs, 1PZs)	10 (9SIs, 1PZs)	11 (10SIs, 1PZs)
PH6: HWY 697:02 Tompkins Landing	SI# 1, 5, 12, 13, 02-1, 02-2, 02-3, 02-4, and 02-5 PZ# 27706, 27707, 27708, and 27709	None	None	SI-2	- Read instruments semi-annually	13 (9SIs, 4 PZs)	14 (10SIs, 4 PZs)	13 (9SIs, 4 PZs)
PH7: HWY 986:01 Daishowa East Access	SI# 1, 2, 4, 5, 6, 7, 8, 9, 15, 03-5, 03-6, 03-7, PILE04-1, PILE04-2 and PILE04-3	None	None	SI03-1, SI03-2	- Read instruments semi-annually - PILE04-2 was fixed by Amec and should be read in Spring 2005	15 (15SIs)	15 (15SIs)	15 (15SIs)
PH8E: HWY 64:02 Clear River East	SI# 9, 12, 58, and 61	None	None	None	- Read instruments semi-annually	4 (4SIs)	4 (4SIs)	4 (4SIs)
PH8W: HWY 64:02 Clear River West	SI# 24, 25, 26, 27, 50, 51, 52, 53, 54, 55, and 101	None	None	SI# 22, 102	- Read instruments semi-annually	11 (11SIs)	11 (11SIs)	8 (8SIs)
PH9: HWY 684:02 Shaftsbury Trail	SI# 2, 4A, 6A, and SB1	None	None	PZ# 25479, 26609 and 26475	- Read instruments semi-annually	4 (4SIs)	4 (4SIs)	4 (4SIs)
PH10: HWY 726:02 Eureka River	SI# 98-1, 98-2, and 02-3 PZ# 27710, 27711, 27712	3 SIs	None	SI# 02-1 and 02-2	- Read instruments semi-annually	6 (3SIs, 3PZs)	6 (3SIs, 3PZs)	6 (3SIs, 3PZs)
PH12: HWY 744:04 Judah Hill	SI# 1i, 2i, 6i, 7i, 8i, 10i, and 43i PZ# 22827, 22830, 22831, 22833, 22835, 22838,	None	None	None	- Read instruments semi-annually	13 (7SIs, 6PZs)	13 (7SIs, 6PZs)	13 (7SIs, 6PZs)
<b>TOTALS</b>						<b>126</b> (101SIs, 25PZs)	<b>125</b> (100SIs, 25PZs)	<b>123</b> (98SIs, 25PZs)

SI (slope inclinometer); PZ (Pneumatic Piezometer); SP (Standpipe Piezometer)

# ALBERTA TRANSPORTATION INSTRUMENTATION MONITORING RESULTS FALL 2004

## SECTION C

### PEACE REGION PEACE RIVER HIGH LEVEL

#### SITE PH7: HWY986:01, DAISHOWA EAST ACCESS

#### 1. OBSERVATIONS

##### 1.1 Field Program and Instrumentation Status

Seventeen slope inclinometers (SI-1, 2, 4, 5, 6, 7, 8, 9, 15, 03-1, 03-2, 03-6, 03-7, 04-3A, 04-4A, SI04-1, and SI04-3) were probed and two pneumatic piezometers (PN03-1 and PN03-2) were read at Hwy986:01 Daishowa East Access site on October 11, 2004 by Mr. Vedran Bijeljanin, E.I.T. of Thurber Engineering Ltd. (Thurber). Slope inclinometers SI03-1, SI03-2, SI04-3A and SI04-4A were found to be sheared off or deflected to the point where they are no longer readable. Slope inclinometer SI03-5 could not be located.

The SIs were read using a SINCO Digitilt probe with 2 ft wheelbase and a Digitilt Datamate readout. Inclinometer reading depths were defined as per cable markings with respect to the top of the inclinometer clamps.

Mr. Bijeljanin also took photographs of the site for our files and made observations as to the condition of the site. All of the located instruments, which could be read, were found to be in relatively good condition.

##### 1.2 Site Observations

Observations of the site conditions made at the time of instrumentation monitoring are as follows:

- 1) Recent slide downslope of the pile wall, extending along most of the pile wall length.
- 2) Crack across the highway at SI-15 noted during the Spring 2004 visit (near Sta. 13+250) was repaired. No signs of cracking were noted at the time of the fall 2004 visit at this location.
- 3) No signs of recent movement visible on the highway.

## **2. INTERPRETATION**

### **2.1 General**

SI plots with A and B directions are presented in Section D and are summarized below. Where movement has been recorded the resultant plot (X direction, if applicable) and a rate of movement have also been provided.

### **2.2 Zones of Movement**

New zones of movement were observed in slope inclinometers located in the pile wall. SI04-1 and SI04-3 showed movement over 0.0 to 3.7 m and 1.2 to 3.7 m depth, respectively. Future readings will confirm these movement zones. All zones of movement are summarized in Table PH7-1 at the end of this report, which also provides a historical account of the total movement that has occurred at this site since the initialization of the slope inclinometers, the depth of movement, and the maximum rate of movement.

### **2.3 Interpretation of Monitoring Results And Recommendations**

Some of the slope inclinometers located in active slide areas have been destroyed or sheared off in the past and are currently not being monitored. Interpretations and recommendations for the instruments that are currently being monitored are provided in the following sections.

#### **2.3.1 Station 11+960(SI-1 and SI-2)**

##### **2.3.1.1 Interpretation:**

Since the last reading in spring 2004, minor movement has been recorded in SI-1 over 3.0 to 6.0 m depth. Negligible movement has been measured in the rest of the movement zones in SI-1 and SI-2.

##### **2.3.1.2 Recommendations:**

Since the recorded movements in the area are relatively small, no action is required until the spring 2005 monitoring.

#### **2.3.2 Station 13+250 To 13+300 (SI-15 and SI03-7)**

##### **2.3.2.1 Interpretation:**

All four movement zones in the two slope inclinometers were active indicating continued slope activity in the area. SI03-7 showed increased activity at 12.6 to 14.4 m depth, with the creep rate increasing to 44.2 mm/y. SI-15 showed a small

decrease in movement rates, ranging between 3.8 and 10.1 mm/y. Total cumulative movements in the area range from 32.1 mm (SI03-7, 12.6 to 14.4 m) to 220.5 mm (SI-15, 1.8 to 4.3 m).

#### 2.3.2.2 Recommendations:

It appears that there is an active, deep seated shear zone present in SI03-7, and a shallower movement zone in SI-15. Therefore, ongoing visual monitoring of the roadway in this area by AT personnel and MCI should be performed when possible, to look for signs of roadway distress. The instruments should be read again during the spring, 2005 program.

#### 2.3.3 Station 13+540 (SI-4, 5, 6, 03-1 through 03-6, SI04-1, 04-2, and 04-3)

##### 2.3.3.1 Interpretation:

A pile wall was constructed to stabilize this slide area in 2003-2004. A surficial slump has developed downslope of the pile wall location since the completion of the pile wall construction and site grading operations. The slump extends along most of the pile wall length.

Slope inclinometers 4, 5, and 6 are located east of the main slide block. SI-4 and SI-6 showed minor movements over 3.7 to 7.3 m and 6.1 to 7.9 m depth, respectively. The movement rates have generally decreased or only marginally increased since the last reading in spring 2004. The deeper movement zones have movement rates ranging from 0.9 mm/yr (SI-5) to 6.4 mm/yr (SI-4).

Slope inclinometers SI03-1 and SI03-2, installed at the location of the 2003 slope failure, have sheared off at 11.3 and 8.2 m, respectively. SI04-3A and SI04-4A were installed in 2004 as a replacement for SI03-3 and SI03-4 located downslope of the pile wall. Both of the recently installed SIs have sheared off and could not be read. SI03-5, located in the highway immediately upslope of the slide could not be located, and was presumed destroyed during the new highway construction. However, upon completion of the instrumentation monitoring program, Thurber has obtained information indicating that SI03-5 has been modified as to allow for future readings. The monitoring of SI03-5 will require traffic accommodations. No discernible movement was recorded in SI03-6 located upslope of the highway.

Two of the three slope inclinometers (SI04-1 and SI04-3), installed in the pile wall, indicated increased movement in the surficial movement zones. According to the design drawings there is about 2m of fill above the cap beam of the pile wall. The movement rates in the top 3.7 m range from 35.8 mm/y (SI04-3) to 141.1 mm/y (SI04-1). Based on the conversation with AMEC upon completion of the spring 2004 monitoring program, SI04-2 was understood to be damaged and was not monitored during the fall 2004 monitoring program. However, recent information indicates that the SI may have been repaired and is currently operational, in which case it will be read during the spring 2005 monitoring program.

#### 2.3.3.2 Recommendations:

The readings indicate continued movement in the area, especially downslope of the pile wall. In light of the 2003 slope failure and continued movement in the area, ongoing visual monitoring of the site by AT personnel and MCI should be performed when possible to look for signs of major slope failure. All of the instruments should be read again during the Spring 2005 program.

#### 2.3.4 Station 13+820 (SI-7, 8, and 9)

##### 2.3.4.1 Interpretation:

Since the last reading in spring 2004, no significant movement has been recorded in the deeper movement zones in the area.

##### 2.3.4.2 Recommendations:

No action is required until the spring 2005 monitoring.

### 3. INSTRUMENTATION REPAIRS

All of the operational instruments are in a good condition. Traffic accommodations will be required to read SI03-5 in the future. Maybe this could be arranged in advance with the maintenance contractor.

**TABLE PH7-1**  
**Fall 2004 – Daishowa East Access**  
**Slope Inclinometer**  
**Instrumentation Reading Summary**

Date Monitored: Oct 11, 2004

INSTRUMENT #	DATE INITIALIZED	TOTAL CUMULATIVE RESULTANT MOVEMENT AT NOTED DEPTH SINCE INITIAL READING (mm)	MAXIMUM RATE OF MOVEMENT (mm/y)	CURRENT STATUS	DATE OF PREVIOUS READING	INCREMENTAL MOVEMENT SINCE PREVIOUS READING (mm)	RATE OF MOVEMENT (mm/y)	CHANGE IN RATE OF MOVEMENT SINCE PREVIOUS READING (mm/y)
<b>STATION 11+960</b>								
SI-1	01 Dec, 1995	38.5 mm over 1.2 to 3.0 m depth in 340° direction	16.3 mm/yr between Sep, 2002 and May, 2003	Operational	21 May, 2004	No discernible movement	0.0	N/A
		18.0 mm over 3.0 to 6.0 m depth in 340° direction	4.6 mm/yr between May, 1997 and May, 1998			1.1	2.9	2.5
		2.5 mm over 8.5 to 9.8 m depth in 340° Direction	1.3 mm/yr between July and Dec, 1996			No discernible movement	0.9	0.8
SI-2	09 Apr, 1996	75.5 mm over 0.0 to 2.4 m depth in 325° Direction	24.4 mm/yr between Sep, 2002 and May, 2003	Operational	21 May, 2004	No discernible movement	0.0	N/A
		5.6mm at 14.5 m depth in 325° Direction	1.4 mm/yr between Sep, 2002 and May, 2003			No discernible movement	0.1	-0.6
<b>STATION 13+250 TO 13+300</b>								
SI03-7	Set the reading from 26 Sep, 2003 as the new initial reading	5.1 mm over 7.7 to 10.7 m depth in 335° direction	16.5 mm/yr between Sep. and Oct, 2003	Operational	21 May, 2004	2.0	5.1	1.1
		32.1 mm over 12.6 to 14.4 m depth in 335° direction	44.2 mm/yr between May and Oct, 2004			17.3	44.2	22.9

**TABLE PH7-1 (Continued)**  
**Fall 2004 – Daishowa East Access**  
**Slope Inclinometer**  
**Instrumentation Reading Summary**

INSTRUMENT #	DATE INITIALIZED	TOTAL CUMULATIVE RESULTANT MOVEMENT AT NOTED DEPTH SINCE INITIAL READING (mm)	MAXIMUM RATE OF MOVEMENT (mm/y)	CURRENT STATUS	DATE OF PREVIOUS READING	INCREMENTAL MOVEMENT SINCE PREVIOUS READING (mm)	RATE OF MOVEMENT (mm/y)	CHANGE IN RATE OF MOVEMENT SINCE PREVIOUS READING (mm/y)
<b>STATION 13+250 TO 13+300 (CONTINUED)</b>								
SI-15	01 Dec, 1995	220.5 mm over 1.8 to 4.3 m depth in 322° direction	36.6 mm/yr between June and Sep, 2002	Operational	21 May, 2004	4.0	10.1	-6.5
		65.8 mm over 4.3 to 6.1 m depth in 350° direction	10.1 mm/yr between Sep, 2001 and June, 2003			1.5	3.8	-1.5
<b>STATION 13+540</b>								
SI-4	07 Jun, 1996	71.2 mm over 0.0 to 3.7 m depth in 0° direction	24.6 mm/yr between Sep, 2002 and May, 2003	Operational	21 May, 2004	No discernible movement	0.0	N/A
		35.2 mm over 3.7 to 7.3 m depth in 0° direction	9.5 mm/yr between May and Sep, 2003			2.5	6.4	1.4
		9.1 mm over 7.3 to 9.1 m depth in 0° direction	2.6 mm/yr between May and Sep, 2003			No discernible movement	1.0	-0.6
SI-5	16 Nov, 1994	74.5 mm over 0.0 to 2.4 m depth in 358° direction	34.1 mm/yr between Sep, 2002 and May, 2003	Operational	21 May, 2004	No discernible movement	0.0	N/A
		15.8 mm over 2.4 to 4.9 m depth in 358° direction	4.1 mm/yr between Dec, 1996 and May, 1998			No discernible movement	0.9	-0.8



**TABLE PH7-1 (Continued)**  
**Fall 2004 – Daishowa East Access**  
**Slope Incliner**  
**Instrumentation Reading Summary**

INSTRUMENT #	DATE INITIALIZED	TOTAL CUMULATIVE RESULTANT MOVEMENT AT NOTED DEPTH SINCE INITIAL READING (mm)	MAXIMUM RATE OF MOVEMENT (mm/y)	CURRENT STATUS	DATE OF PREVIOUS READING	INCREMENTAL MOVEMENT SINCE PREVIOUS READING (mm)	RATE OF MOVEMENT (mm/y)	CHANGE IN RATE OF MOVEMENT SINCE PREVIOUS READING (mm/y)
<b>STATION 13+540 (CONTINUED)</b>								
SI-6	09 Apr, 1996	189.2 mm over 0.0 to 6.1 m depth in 0° direction	64.9 mm/yr between Sep, 2003 and May, 2004	Operational	21 May, 2004	No discernible movement	0.0	N/A
		18.8 mm over 6.1 to 7.9 m depth in 0° direction	7.4 mm/yr between Sep, 2003 and May, 2004			1.1	2.9	-4.5
SI03-1	14 Sep, 2003	N/A	N/A	Sheared off at 11.3 m	21 May, 2004	N/A	N/A	N/A
SI03-2	14 Sep, 2003	N/A	N/A	Sheared off at 8.2 m	21 May, 2004	N/A	N/A	N/A
SI03-3	16 Sep, 2003	N/A	N/A	Sheared off at 9.5 m	09 Oct, 2003	N/A	N/A	N/A
SI03-4	16 Sep, 2003	N/A	N/A	Sheared off at 7.5 m	09 Oct, 2003	N/A	N/A	N/A

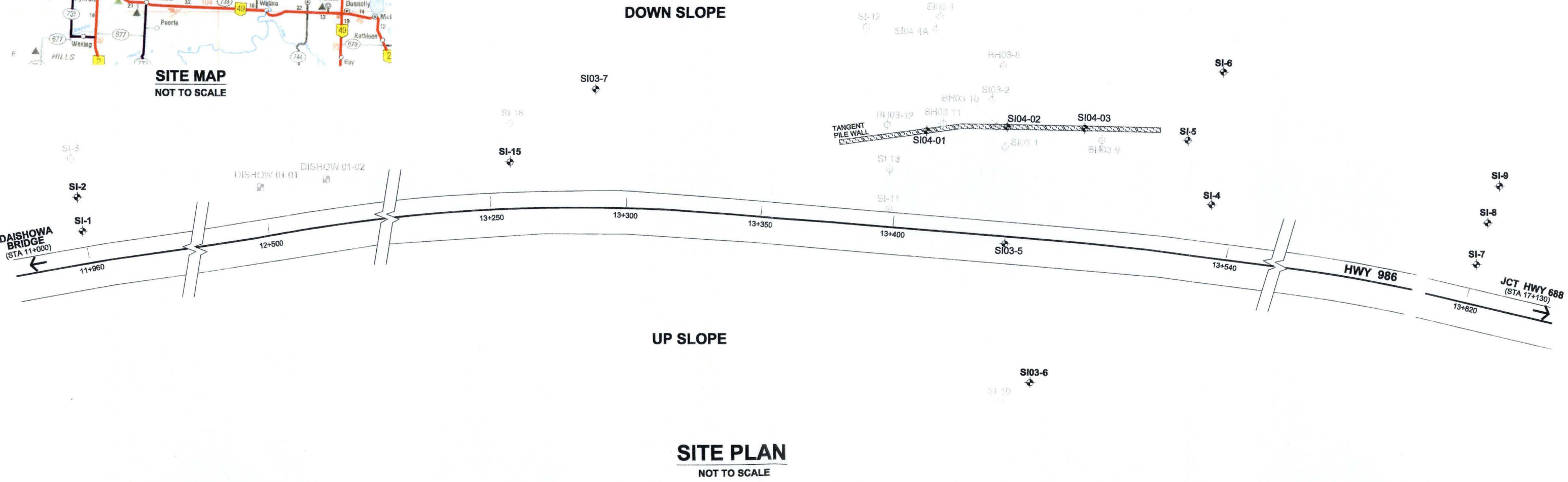
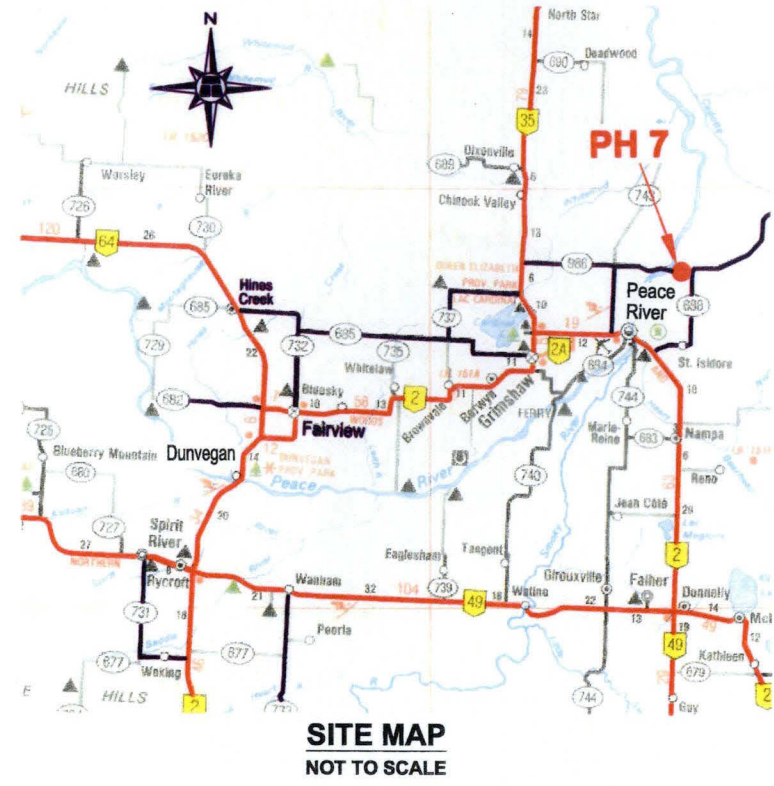
**TABLE PH7-1 (Continued)**  
**Fall 2004 – Daishowa East Access**  
**Slope Inclinometer**  
**Instrumentation Reading Summary**

INSTRUMENT #	DATE INITIALIZED	TOTAL CUMULATIVE RESULTANT MOVEMENT AT NOTED DEPTH SINCE INITIAL READING (mm)	MAXIMUM RATE OF MOVEMENT (mm/y)	CURRENT STATUS	DATE OF PREVIOUS READING	INCREMENTAL MOVEMENT SINCE PREVIOUS READING (mm)	RATE OF MOVEMENT (mm/y)	CHANGE IN RATE OF MOVEMENT SINCE PREVIOUS READING (mm/y)
<b>STATION 13+540 (CONTINUED)</b>								
SI03-5	16 Sep, 2003	N/A	N/A	Could not be located	12 Aug, 2004	N/A	N/A	N/A
SI03-6	16 Sep, 2003	5.6 mm over 0.0 to 2.3 m depth in 0° direction	68.7 mm/yr from Sep. 16. to 17, 2003	Operational	21 May, 2004	No discernible movement	0.0	N/A
		1.7 mm over 4.7 to 5.9 m depth in 345° direction	22.8 mm/yr from Sep. 16. to 17, 2003			No discernible movement	0.8	-1.2
SI04-1	Reinitialized on 12 Aug, 2004	23.7 mm over 0.0 to 3.7 m depth in 295° direction	141.1 mm/yr from Aug. to Oct, 2004	Operational	12 Aug, 2004	23.5	141.1	N/A
SI04-2	19 Apr, 2004	N/A	N/A	Not Read	21 May, 2004	N/A	N/A	N/A
SI04-3	19 Apr, 2004	170.1 mm over 1.2 to 3.7 m depth in 0° direction	1039.7 mm/yr from Apr. to June, 2004	Operational	12 Aug, 2004	5.9	35.8	125.2
<b>STATION 13+820</b>								
SI-7	19 July, 1996	121.5 mm over 0.0 to 2.4 m depth in 355° direction	35.4 mm/yr between May and Sep, 2003	Operational	21 May, 2004	No discernible movement	0.0	N/A
		1.7 mm over 8.5 to 9.8 m depth in 355° direction	0.9 mm/yr between Sep, 2002 and May, 2003			No discernible movement	0.7	1.4

**TABLE PH7-1 (Continued)**  
**Fall 2004 – Daishowa East Access**  
**Slope Incliner**  
**Instrumentation Reading Summary**

INSTRUMENT #	DATE INITIALIZED	TOTAL CUMULATIVE RESULTANT MOVEMENT AT NOTED DEPTH SINCE INITIAL READING (mm)	MAXIMUM RATE OF MOVEMENT (mm/yr)	CURRENT STATUS	DATE OF PREVIOUS READING	INCREMENTAL MOVEMENT SINCE PREVIOUS READING (mm)	RATE OF MOVEMENT (mm/y)	CHANGE IN RATE OF MOVEMENT SINCE PREVIOUS READING (mm/y)
<b>STATION 13+820 (CONTINUED)</b>								
SI-8	09 Apr, 1996	101.3 mm over 0.0 to 2.4m depth in 355° direction	47.8 mm/yr between Sep, 2002 and May, 2003	Operational	21 May, 2004	No discernible movement	0.0	N/A
		5.5 mm over 2.4 to 4.3m depth in 355° direction	2.4 mm/yr between May and Sep, 2003			0.7	1.7	2.1
SI-9	09 Apr, 1996	121.8 mm over 0.0 to 3.0m depth in 345° direction	47.4 mm/yr between Sep, 2002 and May, 2003	Operational	21 May, 2004	No discernible movement	0.0	N/A
		5.1 mm over 3.7 to 4.9m depth in 345° direction	1.4 mm/yr between May and Sep, 2003			No discernible movement	0.3	0.3

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**LEGEND :**

- ⊕ SLOPE INCLINOMETERS (currently using)
- ⊕ SLOPE INCLINOMETERS (Installed in 2001, not in use)
- SLOPE INCLINOMETER (not in use)

**NOTES :**

1. BASE PLAN COPIED FROM "GAEA ENGINEERING" DRAWING (DATED MAY. 1997)
2. LOCATIONS OF 2003 SLOPE INDICATORS OBTAINED FROM AMEC DRAWING NO. : EG08628.37-002.dwg DATED MARCH 2004.

**FIGURE PH7-1**  
PH7-1 : HWY 986:01 - DAISHOWA EAST ACCESS  
SITE PLAN SHOWING APPROXIMATE INSTRUMENT LOCATIONS  
PEACE REGION (PEACE RIVER / HIGH LEVEL) INSTRUMENTATION READINGS - C  
DATE : NOVEMBER, 2004  
THURBER PROJECT #15-16-187



ALBERTA TRANSPORTATION  
PEACE REGION REGION, PEACE RIVER HIGH LEVEL  
SLOPE INCLINOMETER MONITORING FIELD SUMMARY  
FALL 2004

<b>Location:</b> PH7 - Daishowa East Access <b>File Number:</b> 15-16-187 <b>Probe:</b> Sinco 26988B <b>Cable:</b> 250'Sinco	<b>Readout:</b> Datamate 11154 <b>Extension:</b> N/A <b>Temp:</b> N/A <b>Read by:</b> VB
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**SLOPE INCLINOMETER (SI) READINGS**

SI#	GPS Location		Date	Stickup (m)	Depth from top of clamps (ft)	Magn. North A+ Groove	Current Bottom Depth Readings				Any signs of recent movement visible at surface
	Northing	Easting					A+	A-	B+	B-	
SI-1	N56° 21.643'	W117° 09.866'	11-Oct	0.34	51 to 1	340°	877	-862	-80	56	None
SI-2	N56° 21.651'	W117° 09.861'	11-Oct	0.15	57 to 1	330°	-866	881	-357	339	None
SI-4	N56° 21.569'	W117° 08.339'	11-Oct	0.30	67 to 1	0°	1042	-1029	519	-537	None
SI-5	N56° 21.578'	W117° 08.349'	11-Oct	0.21	67 to 1	10°	303	-291	2502	2511	None
SI-6	N56° 21.589'	W117° 08.324'	11-Oct	0.37	57 to 1	0°	467	-454	-855	866	None
SI-7	N56° 21.480'	W117° 08.121'	11-Oct	0.37	57 to 1	0°	-43	58	-1765	1737	None
SI-8	N56° 21.499'	W117° 08.107'	11-Oct	0.26	67 to 1	15°	774	-761	-5	-19	None
SI-9	N56° 21.514'	W117° 08.096'	11-Oct	0.27	67 to 1	345°	-190	203	-367	359	None
SI-15	N56° 21.624'	W117° 08.624'	11-Oct	0.37	69 to 1	350°	-1506	1519	-1001	989	See below
SI03-1	N/A	N/A	11-Oct	0.20	53 to 1	5°	N/A	N/A	N/A	N/A	Sheared off at 11.3 m
SI03-2	N/A	N/A	11-Oct	0.27	53 to 1	10°	N/A	N/A	N/A	N/A	Sheared off at 8.2 m
SI03-5	N/A	N/A	11-Oct	0.27	59 to 1	20°	N/A	N/A	N/A	N/A	Could not be located
SI03-6	N56° 21.547'	W117° 08.436'	11-Oct	0.21	53 to 1	15°	423	-414	-633	615	None
SI03-7	N56° 21.630'	W117° 08.583'	11-Oct	0.26	59 to 1	5°	-4	11	-1608	1594	None
SI04-1	N56° 21.607'	W117° 08.439'	12-Oct	0.12	69 to 1	30°	-812	827	-2	-15	None
SI04-2	N/A	N/A	11-Oct	0.24	69 to 1	30°	N/A	N/A	N/A	N/A	Damaged
SI04-3	N56° 21.587'	W117° 08.376'	12-Oct	0.09	69 to 1	0°	318	-304	-54	42	None

**PNEUMATIC PIEZOMETER (PI) READINGS**

PN#	Date	Reading (psi)/(kPa)	Identification Number
PN03-1	11-Oct	3.3/23	27284
PN03-2	11-Oct	0.3/2	28177

**DAILY INSPECTOR REPORT**

-SI03-1: SI probe stopped at about 11.3 m due to significant deflection in SI casing.
-The recently installed SI04-3A has sheared off at 10.1m.
-The recently installed SI04-4A has sheared off at 9.8m.
-Recent slide downslope of pilewall noted, extending from SI-5 to SI03-2.
-Smaller slump noted between SI03-4 and SI04-1.
-Soil settlement observed around SI04-2 and 3 locations.
-Crack across the road at SI-15 location was repaired. No signs of recent movement visible on the highway.

