

**ALBERTA INFRASTRUCTURE AND
TRANSPORTATION
INSTRUMENTATION MONITORING RESULTS
SPRING 2007**

SECTION C

PEACE REGION (PEACE RIVER / HIGH LEVEL)

SITE PH1: DUNVEGAN HILL, NORTH

1. OBSERVATIONS

1.1 Field Program and Instrumentation Status

One slope inclinometer (SI05-1) and one standpipe piezometer (SP05-2) were read at Dunvegan Hill - North site on May 25, 2007 by Mr. Muhammad S. Iqbal, M.Sc., and Mr. Kevin J. Carpenter, of Thurber Engineering Ltd. (Thurber).

The SI was read using an RST Digitilt probe with 2 ft depth interval and an RST hand-held readout. Inclinometer reading depths were defined as per cable markings with respect to the top of the inclinometer clamps.

2. INTERPRETATION AND RECOMMENDATIONS

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. Standpipe piezometer results are also provided in Section D.

2.2 Zones of Movement

Zones of new movement were not observed in this location since last reading in the Fall 2006.

All zones of movement are summarized in Table PH1-1 at the end of this report. This table 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

2.3.1 Interpretation

Slope inclinometer SI05-1 has registered a total cumulative movement of 49.1 mm since its initialization in June 2005. The incremental movement since the Fall 2006 readings is 24.8 mm over a depth of 2.6 to 5 m. The rate of movement has also increased and is currently at 41.6 mm/yr.

Standpipe piezometer SP05-02 registered an increase of 1.6 m in its water level. The readings are summarized in Table PH1-2.

2.3.2 Recommendations

Slide repairs will be carried out at this site this year to fix the slide areas. The repairs will result in the destruction of the existing instruments so no readings will be required in Fall 2007.

3. INSTRUMENTATION REPAIRS

No repair required.

TABLE PH1-1
Spring 2007 – Dunvegan Hill, North
Slope Inclinerometer
Instrumentation Reading Summary

Date Monitored: May 25, 2007

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)
SI05-1	June 06, 2005	49.1 mm over 2.6 to 5 m depth in 190° direction	41.6 mm/yr in May 2007	Operational	October 20, 2006	24.8	41.6	19.6

TABLE PH1-2
Spring 2007 – Dunvegan Hill, North
Standpipe Piezometer
Instrumentation Reading Summary

Date Monitored: May 25, 2007

INSTRUMENT #	DATE INITIALIZED	TIP DEPTH (m)	GROUND ELEV. (m)	CURRENT STATUS	MAXIMUM WATER LEVEL BGS (m)	MEASURED WATER LEVEL BGS (m)	PREVIOUS READING (m)	CHANGE IN WATER LEVEL SINCE PREVIOUS READING (m)
SP05-1	15 March, 2005	14.5	N/A	Covered with asphalt	7.1 on Aug 12, 2005	N/A	8.8 on May 20, 2005	N/A
SP05-2	15 March, 2005	10.36	N/A	Active	5.6 on May 25, 2007	5.60	7.2 on October 20, 2006	+1.60
SP05-3	12 August, 2005	8.84	N/A	Destroyed	6.5 on 12 August, 2005	N/A	6.5 on 12 August, 2005	N/A

Figure PH1-1 in Section D provides a sketch of the approximate locations of the monitoring instrumentation for this site

NOTES:

- SP - standpipe (for water level monitoring, 1" diameter PVC);
- BGS - below ground surface

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PEACE REGION (PEACE RIVER / HIGH LEVEL)
SLOPE INCLINOMETER MONITORING FIELD SUMMARY
SPRING 2007**

Location: PH1 - Dunvegan Hill, North File Number: 15-85-79 Probe: Sinco 26960 & DP0171 Cable: Sinco 260' & RST 300'	Readout: Datamate 70849 & RST Hand Held PDA Extension: N/A Temp: N/A Read by: MSI/KJC
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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-	
SI05-1	N55° 55.492'	W118° 35.385'	25-May	0.15	49 to 5		451	-441	2	-13	See note at bottom

STANDPIPE PIEZOMETER READINGS

GPS Location WGS84 - UTM		SP#	Date	Stick-up (m)	Reading below top of casing (m)	Bottom Pipe Depth (below top of casing (m))
Northing	Easting					
N55° 55.492'	W118° 35.383'	SP05-1		N/A	N/A	14.5
N55° 55.482'	W118° 35.381	SP05-2	25-May	-0.1	5.49	14.1
		SP05-3			DESTROYED	

DAILY INSPECTOR REPORT

SP05-1 was found covered with asphalt in Fall 2006 readings.
SP05-3 was found destroyed in the 2006 Spring readings.
Movement noticed in the pavement i.e. cracks and depression in the vicinity of SI 05-1.