



ALBERTA TRANSPORTATION NORTH CENTRAL REGION INSTRUMENTATION MONITORING RESULTS

FALL 2020

SECTION C

SITE NC004-1: HWY 55 / HWY 813 INTERSECTION (ATHABASCA)

1. OBSERVATIONS

1.1 Field Program and Instrumentation Status

One pneumatic piezometer (PN04-2) was read at the Hwy 55 / Hwy 813 intersection site in Athabasca on September 29, 2020 by Mr. Niraj Regmi, G.I.T, of Thurber Engineering Ltd.

The pneumatic piezometer was read using an RST C108 pneumatic piezometer reader.

2. INTERPRETATION

2.1 Zones of Movement

There are currently no operational slope inclinometers (SIs) at the site. Zones of old SI movement are summarized in Table NC004-1 at the end of this report. Table NC004-1 also provides a historical account of the total movement, the depth of movement and the maximum rate of movement that occurred at this site since the initialization of the SIs.

2.2 Interpretation of Monitoring Results

The groundwater level increased by 0.11 m in PN04-2 since the spring of 2020. Table NC004-1-2 summarizes the pneumatic and standpipe piezometer readings. The piezometer readings are plotted on Figure NC004-1-1 in Section D.



3. RECOMMENDATIONS

3.1 Future Work

PN04-2 should be read again in the spring of 2021.

3.2 Instrumentation Repairs

No instruments need to be repaired at this time.

TABLE NC004-1-1
FALL 2020 – HWY 55 / HWY 813 INTERSECTION (ATHABASCA)
SLOPE INCLINOMETER INSTRUMENTATION READING SUMMARY

Date Monitored: September 29, 2020

INSTRUMENT #	DATE INITIALIZED	TOTAL CUMULATIVE RESULTANT MOVEMENT AND DEPTH OF MOVEMENT TO DATE (mm)	MAXIMUM RATE OF MOVEMENT (mm/yr)	CURRENT STATUS OF SI	DATE OF PREVIOUS READING	INCREMENTAL MOVEMENT SINCE PREVIOUS READING (mm)	CURRENT RATE OF MOVEMENT (mm/yr)	CHANGE IN RATE OF MOVEMENT SINCE PREVIOUS READING (mm/yr)
SI23	Jan. 10, 1996	60.9 over 7.6 m to 10 m depth in 18° direction	46.8 between May and Oct. 1997	Destroyed during construction	May 24, 2011	N/A	N/A	N/A
SI24	Jan.11, 1996	77.0 over 12.1 m to 13.9 m depth in 8° direction	23.0 between Dec 1996 and Nov. 1997	Destroyed during construction	May 24, 2011	N/A	N/A	N/A
SI04-1	Nov. 14, 2004	26.0 over 15.7 m to 18.2 m depth in 312° direction	10.1 between Dec. 2007 and May 2008	Destroyed during construction	May 24, 2011	N/A	N/A	N/A
SI04-2	Nov. 14, 2004	30.5 over 9.8 m to 12.2 m depth in 333° direction	12.9 between Nov. and Dec. 2004	Sheared at 11.9 mBGS	May 24, 2011	N/A	N/A	N/A

Figure 13357-NC004-1 in section D provides a sketch of the approximate location of the monitoring instrumentation for this site.

TABLE NC004-1-2
FALL 2020 – HWY 55 / HWY 813 INTERSECTION (ATHABASCA)
PNEUMATIC AND STANDPIPE PIEZOMETER INSTRUMENTATION READING SUMMARY

Date Monitored: September 29, 2020

INSTRUMENT #	DATE INITIALIZED	TIP ELEV. (m)	GROUND ELEV. (m)	CURRENT STATUS	MAXIMUM GROUNDWATER ELEVATION (m)	MEASURED PORE PRESSURE (kPa)	PREVIOUS READING (m)	CHANGE IN WATER LEVEL SINCE PREVIOUS READING (m)
PN04-1	Nov. 11, 2004	518.79	528.69	<i>Destroyed during construction</i>	527.43 on May 29, 2006	N/A	N/A	N/A
PN04-2	Nov. 12, 2004	529.95	538.36	Active	536.27 on Dec 14, 2004	50.0 (535.05 m)	49.0 (534.94 m)	0.11
					MAXIMUM GROUNDWATER ELEVATION (m)	MEASURED WATER LEVEL ELEVATION (m)		
SP04-1	Nov. 11, 2004	521.71	528.69	<i>Destroyed during construction</i>	527.11 (1.58 mBGS) on May 24, 2011	N/A	N/A	N/A
SP04-2	Nov. 12, 2004	531.96	538.36	<i>Blocked</i>	536.58 (1.8 mBGS) on Dec. 14, 2004	N/A	N/A	N/A

Figure 13357-NC004-1 in section D provides a sketch of the approximate location of the monitoring instrumentation for this site.



**ALBERTA TRANSPORTATION
NORTH CENTRAL REGION
INSTRUMENTATION MONITORING RESULTS**

FALL 2020

**SECTION D
DATA PRESENTATION**

SITE NC004-1: HWY 55 / HWY 813 INTERSECTION (ATHABASCA)

**ALBERTA TRANSPORTATION
NORTH CENTRAL REGION - ATHABASCA AREA
INSTRUMENTATION MONITORING FIELD SUMMARY (NC004-1)
FALL 2020**

Location: HWY 55/813 Intersection (HWY 55:10C1 0.700)
File Number: 13357

Readout: RST PN C108 Unit 6
Temp: 11
Read by: NKR

PNEUMATIC PIEZOMETER (PN) READINGS

PN#	GPS Location (UTM 12)		Date	Reading (kPa)	Identification Number
	Easting	Northing			
04-2	353550	6066192	29-Sep-20	50	029755

INSPECTOR REPORT

H:\13000\13357 Geohazard Assessment - Athabasca (CON0017605)\Drafting\2018\NFR (SPRING)\13357 NC004-1.dwg - Layout1 - Jul. 04. 2018

