

Alpine Pipeline

River Crossing Monitoring

2005

Submitted to

 **ConocoPhillips**

Submitted by

 **Baker**

Challenge Us.

Michael Baker, Jr., Inc.
August 2005

105758-MBJ-RPT-001



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1.0 Introduction

The Alpine Sales Oil pipeline was constructed during the winter of 1998/1999, hydrostatically tested on June 30, 2000, with first fluid flow on November 15, 2000. The pipeline crosses three major rivers between Alpine and Kuparuk (see Figure 1). These crossings include a horizontal directional drilled (HDD) crossing of the east channel of the Colville River, and above ground crossings of the Kachemach River and the Miluveach River. In 2003 and 2004, Michael Baker Jr. Inc. (Baker) conducted post spring breakup monitoring of these crossings in support of ConocoPhillips Alaska Inc. (CPAI) annual operation and maintenance (Baker 2003, 2004). In 2005, Baker again conducted post spring breakup monitoring of these crossings. This report presents the findings of the 2005 post breakup monitoring. Field observations and surveying data were evaluated and prior years' as-built elevations of the topography and pipeline data was compared to the 2005 findings.



ConocoPhillips
Alaska, Inc.

DATE: 08/11/05	PROJECT: 105758 ALPINE PIPELINE
DRAWN: WAP	FILE: FIGURE 1
CHECKED: MTA	SCALE: 1" = 10,000'

Baker

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LEGEND
⊗ MONITORING SITES

2005 POST BREAKUP
PIPELINE MONITORING
SITES
FIGURE 1

2.0 Objective

The objective of the post spring breakup monitoring was to monitor the Alpine pipeline system at the major river crossing sites including the HDD crossing on the east channel of the Colville River, the Miluveach River crossing, and the Kachemach River crossing. Of particular concern was the condition of the pipeline itself at these regions as well as the pipeline's impact on the hydrologic features it crosses.

The data collected during this task included the following:

- Collection of photographs at each crossing location.
- Documentation of Vertical Support Member (VSM) tilting, settling, jacking, or scouring.
 - Miluveach River VSM Nos. 2047, 2048, and other VSMs within 15 feet of the channel were inspected.
 - Kachemach River VSM Nos. 1715A, 1715B and other VSMs within 15 feet of the channel were inspected.
- Measurement of scour around VSMs in the river channels by surveying depth and width.
- Measurement of localized scouring near river crossings.
- Evaluation of bank erosion at each location by surveying the top and bottom elevations.
- Evaluation of bank erosion at HDD crossing, 50 feet upstream and downstream from as-built locations.
- Documentation of bank and ground stability from the Colville River to the HDD east pad by conducting a topographical survey.

The following physical conditions were specifically evaluated during the site inspections:

1. The presence or absence of erosion at the HDD gravel pads.
2. Settlement and jacking of the HDD building foundations.
3. Obstructions, ice dams, new river channels, or changes in flow in the channels.
4. Signs of flooding that threatened a facility or pipeline.
5. Water that could not be diverted and was concentrated longitudinally on or along the pipeline centerline, or gulying that threatened the buried pipeline at the HDD crossing.
6. Soil pressure ridges that developed parallel to the pipe axis and exceeded one foot in height and 60 feet in length.
7. Ponding that extended over the pipe axis deeper than one foot and more than 100 feet long.
8. Cracks within ten feet of the pipeline centerline at least ten feet long with vertical displacement exceeding six inches, or wider than two inches parallel to the pipe axis and longer than 60 feet.
9. Depressions occurring longitudinally over pipe axis deeper than one foot and more than 100 feet long.
10. Pipeline leaks.

3.0 Methods

On June 13, 2005, photographs of the three crossings were collected. On July 8, 2005, Baker personnel inspected the three Alpine pipeline river crossings. At the Colville River HDD crossing, the inspections extended from the point of pipeline casing entry to the riverbanks, while at the Kachemach and the Miluveach rivers, the inspections extended within the banks of the channel. The inspections extended upstream and downstream several hundred feet of the three crossing sites. In addition to visual observations, both aerial and ground photographs were taken at each of the sites and are provided in Appendix A.

Scour at each in-stream VSM at the Miluveach and Kachemach rivers was measured using a pocket rod. Scour depths were determined by comparing the water depth directly upstream and downstream of each pile to the water depth adjacent to each location.

Kuukpik/LCMF, LLC (LCMF) surveyed the pipeline supports top of steel (TOS) elevation, stream topography, and riverbanks. LCMF developed bank migration plans and a tabulation of historical migration of each bank.

4.0 Results

4.1 HDD West Bank

The west bank of the Colville River HDD crossing was inspected by visual observation as well as ground and aerial photography (Photo 1 through Photo 6, Appendix A). On the day of the inspection, the site was clear of snow. The 2005 breakup floodwaters did not reach the toe of the bluff and there was no sign of erosion at the bank or on the gravel pads (see Photo 3 through Photo 6, Appendix A).

Between 2001 and 2005, maximum erosion was measured at a single location several hundred feet north of the HDD centerline along the bluff. Maximum erosion was measured to average 2.2 feet/year.

The average rate of erosion along the top of bank between 2001 and 2005 (along the 440-foot west bank at the HDD crossing) was 0.5 feet/year, based on the historical LCMF

surveys. This average annual rate of erosion is less than the historical average rate of 1.2 feet/year and less than the estimated maximum erosion rate of 2.3 feet/year (Baker 1997).

Based on the visual inspections and survey results, there appeared to be no tilting, settling, or jacking of the VSMs or HDD building foundations. The pipeline appeared to be in good condition with no leaks. The LCMF surveying results for the Colville west bank HDD crossing can be found in Appendix B.

4.2 HDD East Bank

The east bank of the Colville River HDD crossing was inspected by visual observation as well as ground and aerial photography (Photo 7 through Photo 12, Appendix A). On the day of the inspection, the site was clear of snow. Slumping and erosion of the bank was observed at the HDD site, as well as upstream and downstream from the site, suggesting that the pipeline was not affecting the erosion rate. An exposed portion of rigid insulation was observed on the southwest corner of the site (see Photo 9, Appendix A.) This insulation most likely originated from post-construction efforts to control the thermal erosion at the site and is not associated with the thermosyphons themselves.

Between 2001 and 2005, maximum erosion was measured at a single location along the bluff near the 18-inch seawater line casing and was measured to average 6.7 feet/year.

The average rate of erosion along the top of bank between 2001 and 2005 (along the 450-foot east bank at the HDD crossing) was approximately 2.5 feet/year based on the historical LCMF topographic surveys. While the average annual erosion rate is greater than the historical average bank erosion rate of 1.5 feet/year, it is equal to the estimated maximum erosion rate of 2.5 feet/year (Baker 1997).

In addition to monitoring the bank bluff migration, subsidence monitoring has been conducted at the polygon trough cross sections since 2001. The cumulative subsidence at each of the eight cross sections is generally less than one foot.

There was minor settlement in the ground surface identified at the entrance for the 20-inch oil line casing and the 18-inch seawater line casing, however it was estimated to

be less than 6-inches (see Photo 10, Appendix A). One thermistor casing was found broken and another was bent, most likely due to slumping of the corrugated metal pipe (CMP) protective pipe (see Photo 11 and Photo 12, Appendix A).

Based on the visual inspections and survey results, there appeared to be no tilting, settling, or jacking of the VSMs, and the pipeline appeared to be in good condition with no leaks. The LCMF surveying results for the Colville east bank HDD crossing can be found in Appendix C.

4.3 Kachemach River Crossing

The Kachemach River crossing was inspected by visual observation as well as with ground and aerial photography (Photo 13 through Photo 16, Appendix A). On the day of the inspection, the west bank was completely free of snow and debris, while the east bank, at the location of the pipeline crossing, remained covered in snow. Water in the active channel was approximately two to three feet deep. Moderate deposits of sand and gravel were observed on the west bank, upstream of the pipeline centerline. There were no signs of significant erosion observed at the pipeline crossing, or scour at the base of the VSMs. The observed scour measurements are presented in Table 4-1.

Pile Number	Observed Scour Measurement (ft)
1713	Not within active flow of river
1714 -upstream	2.2 ft
1714 -downstream	1.8 ft
1714A-upstream (abandoned)	0.9 ft
1714A-downstream (abandoned)	0.4 ft
1715A –upstream	0.4 ft
1715A –downstream	0.0 ft
1715B –upstream	0.8 ft
1715B –downstream	0.1 ft
1715C –upstream (abandoned)	0.8 ft
1715C –downstream (abandoned)	0.5 ft
1716	Not within active flow of river

The LCMF surveying results of the Kachemach River crossing can be found in Appendix D. Table 4-2 is a comparison of the 2004 and 2005 VSM tos elevation tabulation.

Location	Date		Difference
	7-16-2004	8-4-2005	
1715A	42.272	42.268	0.00 feet
1715B	42.263	42.272	0.01 feet

Based on a comparison of the 2004 and 2005 Kachemach VSM elevation data, there appears to be no impact from the 2005 spring breakup to the pipeline. Based on visual inspection, there appeared to be no tilting, settling, or jacking of the VSMs, and the pipeline appeared to be in good condition with no leaks.

4.4 Miluveach River Crossing

The Miluveach crossing was inspected by visual observation as well as ground and aerial photography (Photo 17 through Photo 20, Appendix A). At the time of the inspection, it was raining steadily and both banks were entirely free of snow and debris. Water within the active channel was approximately one foot deep. There were no signs of any significant erosion of the banks or scour at the VSMs. The observed scour measurements at each VSM are presented in Table 4-3.

Pile Number	Observed Scour Measurement (ft)
2046	Not within active flow of river
2047A-upstream	0.3 ft
2047A-downstream	0.1 ft
2047B-upstream	0.2 ft
2047B-downstream	0.0 ft
2048A-upstream	0.7 ft
2048A-downstream	0.1 ft
2048B-upstream	0.8 ft
2048B-downstream	0.2 ft
2049	Not within active flow of river

The LCMF surveying results of the Miluveach River crossing can be found in Appendix E. Table 4-4 is a comparison of the 2004 and 2005 VSM elevation tabulation.

Location	Date		Difference
	7-16-2004	8-4-2005	
2046	57.611	57.595	- 0.02 feet
2047A	57.528	57.465	- 0.06 feet
2047B	57.433	57.450	0.02 feet
2048A	57.635	57.665	0.03 feet
2048B	57.591	57.615	0.02 feet
2049	57.494	57.475	- 0.02 feet

Based on a comparison of the 2004 and 2005 Miluveach VSM elevation data, there appears to be no impact from the 2005 spring breakup to the pipeline. Based on visual inspection, there appeared to be no tilting, settling, or jacking of the VSMs, and the pipeline appeared to be in good condition with no leaks.

5.0 Conclusions

The observations gathered during the course of this field monitoring, along with the surveying results provided by LCMF, suggest that during the 2005 spring breakup there was no significant erosion or scour at any of the pipeline crossing sites. The condition of the pipeline at these three sites was determined to be good. At the east HDD crossing site, the exposed insulation, broken thermistor casing, and continuing natural erosion along the east bank were noted, but are not negatively impacting the safe operation of the pipeline. While the erosion of the east bank near the HDD crossing site does not appear to have been affected by the construction or operation of the pipeline, continued annual monitoring at this location is recommended.

6.0 References

- Michael Baker, Jr., Inc. (Baker). 2004. 2004 Alpine Pipeline River Crossing Monitoring. Prepared for ConocoPhillips Alaska. 103654-MBJ-001. August 2004.
- 2003. 2003 Alpine Pipeline River Crossing Monitoring. Prepared for ConocoPhillips Alaska. 101376-MBJ-001. July 2003.
- 1997. Alpine Development. Colville River Crossing Design Report. Prepared for ARCO Alaska. Rev. 4 2003. Prepared for ConocoPhillips Alaska. 23100-MBJ-RP-003. June 1997.

Appendix A Photos



Photo 1 HDD River Crossing, West Bank July 8, 2005. Aerial view of HDD crossing.



Photo 2 HDD River Crossing, West Bank July 8, 2005. Aerial view of HDD crossing.



Photo 3 HDD River Crossing, West Bank July 8, 2005. Bluff high water mark.



Photo 4 HDD River Crossing, West Bank July 8, 2005. Bluff high water mark.



Photo 5 HDD River Crossing, West Bank July 8, 2005. Heat pipes.



Photo 6 HDD River Crossing, West Bank July 8, 2005. HDD casing transition.



Photo 7 HDD River Crossing, east bank July 8, 2005. Aerial view of HDD crossing.



Photo 8 HDD River Crossing, east bank July 8, 2005. Aerial view of HDD crossing.



Photo 9 HDD River Crossing, east bank July 8, 2005. Erosion at polygon trough.



Photo 10 HDD River Crossing, east bank July 8, 2005. HDD casing transition.



Photo 11 HDD River Crossing, east bank July 8, 2005. Thermistor casing.



Photo 12 HDD River Crossing, east bank July 8, 2005. Thermistor casing.



Photo 13 Kachemach River Crossing June 13, 2005. Aerial view of pipeline crossing.



Photo 14 Kachemach River Crossing July 8, 2005. Aerial view of pipeline crossing.



Photo 15 Kachemach River Crossing July 8, 2005. Pipeline VSM's.



Photo 16 Kachemach River Crossing July 8, 2005. Pipeline VSM's.



Photo 17 Miluveach River Crossing June 13, 2005. Aerial view of pipeline crossing.



Photo 18 Miluveach River Crossing July 8, 2005. Aerial view of pipeline crossing.



Photo 19 Miluveach River Crossing July 8, 2005. Pipeline VSM's.



Photo 20 Miluveach River Crossing July 8, 2005. Pipeline VSM's.

Appendix B HDD West Survey Data

**Alpine CP 00
HDD West Site
Streambank Monitor**

Baseline Station	Streambank Monitor - Top of Bank Locations										Description
	See Drawing CE-CP00-143 Rev 3 for Survey Baseline Location										
	4/7/2002	7/8/2002	7/10/2003	6/20/2004	7/10/2005	Future	Future	Future	Future	Future	Date
0+00	39.5	39.5	39.5	39.5	39.3						Baseline Offset (In Feet)
		0.0	0.0	0.0	-0.2						Incremental Change
		0.0	0.0	0.0	-0.3						Cumulative Change
0+05	39.3	39.3	39.3	39.3	37.6						Baseline Offset (In Feet)
		0.0	0.0	0.0	-1.7						Incremental Change
		0.0	0.0	0.0	-1.7						Cumulative Change
0+10	39.4	39.4	39.4	39.4	38.5						Baseline Offset (In Feet)
		0.0	0.0	0.0	-0.9						Incremental Change
		0.0	0.0	0.0	-0.9						Cumulative Change
0+20	45.8	45.8	45.8	45.8	41.9						Baseline Offset (In Feet)
		0.0	0.0	0.0	-3.8						Incremental Change
		0.0	0.0	0.0	-3.8						Cumulative Change
0+25	41.5	41.5	41.5	41.5	39.1						Baseline Offset (In Feet)
		0.0	0.0	0.0	-2.4						Incremental Change
		0.0	0.0	0.0	-2.4						Cumulative Change
0+30	37.7	37.9	37.9	37.9	37.9						Baseline Offset (In Feet)
		0.1	0.0	0.0	0.0						Incremental Change
		0.1	0.1	0.1	0.2						Cumulative Change
0+40	41.9	41.9	41.9	41.9	41.9						Baseline Offset (In Feet)
		0.0	0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0	0.0						Cumulative Change

**Alpine CP 00
HDD West Site
Streambank Monitor**

Baseline Station	Streambank Monitor - Top of Bank Locations										Description
	See Drawing CE-CP00-143 Rev 3 for Survey Baseline Location										
	4/7/2002	7/8/2002	7/10/2003	6/20/2004	7/10/2005	Future	Future	Future	Future	Future	Date
0+50	42.0	42.0	42.0	42.0	42.0						Baseline Offset (In Feet)
		0.0	0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0	0.0						Cumulative Change
0+60	41.4	41.4	41.4	41.4	41.4						Baseline Offset (In Feet)
		0.0	0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0	0.0						Cumulative Change
0+70	40.7	40.7	40.7	40.7	40.7						Baseline Offset (In Feet)
		0.0	0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0	0.0						Cumulative Change
0+75	21.4	21.4	21.4	21.4	21.4						Baseline Offset (In Feet)
		0.0	0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0	0.0						Cumulative Change
0+80	20.1	20.1	20.1	20.1	20.1						Baseline Offset (In Feet)
		0.0	0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0	0.0						Cumulative Change
0+85	29.0	29.0	29.0	29.0	29.0						Baseline Offset (In Feet)
		0.0	0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0	0.0						Cumulative Change
0+90	42.8	42.8	42.8	42.8	42.8						Baseline Offset (In Feet)
		0.0	0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0	0.0						Cumulative Change

**Alpine CP 00
HDD West Site
Streambank Monitor**

Baseline Station	Streambank Monitor - Top of Bank Locations										Description
	See Drawing CE-CP00-143 Rev 3 for Survey Baseline Location										
	4/7/2002	7/8/2002	7/10/2003	6/20/2004	7/10/2005	Future	Future	Future	Future	Future	Date
1+00	38.7	38.7	38.7	38.7	38.7						Baseline Offset (In Feet)
		0.0	0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0	0.0						Cumulative Change
1+05	37.9	37.9	37.9	37.9	37.9						Baseline Offset (In Feet)
		0.0	0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0	0.0						Cumulative Change
1+10	41.4	41.4	41.4	41.4	39.2						Baseline Offset (In Feet)
		0.0	0.0	0.0	-2.2						Incremental Change
		0.0	0.0	0.0	-2.2						Cumulative Change
1+15	38.2	38.2	38.2	38.2	38.2						Baseline Offset (In Feet)
		0.0	0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0	0.0						Cumulative Change
1+20	39.4	39.4	39.4	39.4	39.4						Baseline Offset (In Feet)
		0.0	0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0	0.0						Cumulative Change
1+25	41.4	41.4	41.4	41.4	41.4						Baseline Offset (In Feet)
		0.0	0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0	0.0						Cumulative Change
1+30	43.0	43.0	43.0	43.0	43.0						Baseline Offset (In Feet)
		0.0	0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0	0.0						Cumulative Change

**Alpine CP 00
HDD West Site
Streambank Monitor**

Baseline Station	Streambank Monitor - Top of Bank Locations										Description
	See Drawing CE-CP00-143 Rev 3 for Survey Baseline Location										
	4/7/2002	7/8/2002	7/10/2003	6/20/2004	7/10/2005	Future	Future	Future	Future	Future	Date
1+40	45.3	45.3	45.3	45.3	43.4						Baseline Offset (In Feet)
		0.0	0.0	0.0	-1.9						Incremental Change
		0.0	0.0	0.0	-1.9						Cumulative Change
1+45	45.7	45.7	45.7	45.7	43.4						Baseline Offset (In Feet)
		0.0	0.0	0.0	-2.3						Incremental Change
		0.0	0.0	0.0	-2.3						Cumulative Change
1+50	45.7	45.7	45.7	45.7	43.9						Baseline Offset (In Feet)
		0.0	0.0	0.0	-1.8						Incremental Change
		0.0	0.0	0.0	-1.8						Cumulative Change
1+60	45.8	45.8	45.8	44.9	44.2						Baseline Offset (In Feet)
		0.0	0.0	-1.0	-0.6						Incremental Change
		0.0	0.0	-1.0	-1.6						Cumulative Change
1+65	45.9	45.9	45.9	45.0	44.3						Baseline Offset (In Feet)
		0.0	0.0	-0.9	-0.7						Incremental Change
		0.0	0.0	-0.9	-1.6						Cumulative Change
1+75	45.9	45.9	45.9	45.9	44.4						Baseline Offset (In Feet)
		0.0	0.0	0.0	-1.5						Incremental Change
		0.0	0.0	0.0	-1.5						Cumulative Change
1+90	45.0	45.0	44.1	44.1	44.1						Baseline Offset (In Feet)
		0.0	-0.9	0.0	0.0						Incremental Change
		0.0	-0.9	-0.9	-0.9						Cumulative Change

**Alpine CP 00
HDD West Site
Streambank Monitor**

Baseline Station	Streambank Monitor - Top of Bank Locations										Description
	See Drawing CE-CP00-143 Rev 3 for Survey Baseline Location										
	4/7/2002	7/8/2002	7/10/2003	6/20/2004	7/10/2005	Future	Future	Future	Future	Future	Date
2+00	44.7	44.7	41.8	41.8	41.1						Baseline Offset (In Feet)
		0.0	-2.9	0.0	-0.8						Incremental Change
		0.0	-2.9	-2.9	-3.6						Cumulative Change
2+05	44.6	44.6	40.4	40.4	39.7						Baseline Offset (In Feet)
		0.0	-4.2	0.0	-0.7						Incremental Change
		0.0	-4.2	-4.2	-4.8						Cumulative Change
2+10	43.7	43.7	40.4	40.2	40.2						Baseline Offset (In Feet)
		0.0	-3.2	-0.3	0.0						Incremental Change
		0.0	-3.2	-3.5	-3.5						Cumulative Change
2+20	41.5	41.5	41.5	40.6	40.6						Baseline Offset (In Feet)
		0.0	0.0	-0.9	0.0						Incremental Change
		0.0	0.0	-0.9	-0.9						Cumulative Change
2+25	42.0	42.0	42.0	40.7	40.7						Baseline Offset (In Feet)
		0.0	0.0	-1.3	0.0						Incremental Change
		0.0	0.0	-1.3	-1.3						Cumulative Change
2+30	42.4	42.3	42.2	40.9	40.9						Baseline Offset (In Feet)
		0.0	-0.1	-1.4	0.0						Incremental Change
		0.0	-0.1	-1.5	-1.5						Cumulative Change
2+35	41.0	40.4	40.4	40.4	40.4						Baseline Offset (In Feet)
		-0.6	0.0	0.0	0.0						Incremental Change
		-0.6	-0.6	-0.6	-0.6						Cumulative Change

**Alpine CP 00
HDD West Site
Streambank Monitor**

Baseline Station	Streambank Monitor - Top of Bank Locations										Description
	See Drawing CE-CP00-143 Rev 3 for Survey Baseline Location										
	4/7/2002	7/8/2002	7/10/2003	6/20/2004	7/10/2005	Future	Future	Future	Future	Future	Date
2+45	38.3	36.8	36.8	36.8	36.8						Baseline Offset (In Feet)
		-1.5	0.0	0.0	0.0						Incremental Change
		-1.5	-1.5	-1.5	-1.5						Cumulative Change
2+50	39.0	38.1	37.8	37.5	37.1						Baseline Offset (In Feet)
		-1.0	-0.3	-0.3	-0.4						Incremental Change
		-1.0	-1.2	-1.5	-1.9						Cumulative Change
2+55	39.9	39.3	38.2	38.2	37.4						Baseline Offset (In Feet)
		-0.5	-1.1	0.0	-0.8						Incremental Change
		-0.5	-1.6	-1.6	-2.4						Cumulative Change
2+60	40.7	40.7	40.7	40.7	38.3						Baseline Offset (In Feet)
		0.0	0.0	0.0	-2.4						Incremental Change
		0.0	0.0	0.0	-2.4						Cumulative Change
2+65	40.9	40.9	40.9	40.6	39.2						Baseline Offset (In Feet)
		0.0	0.0	-0.4	-1.3						Incremental Change
		0.0	0.0	-0.4	-1.7						Cumulative Change
2+70	41.1	41.1	41.1	40.3	40.3						Baseline Offset (In Feet)
		0.0	0.0	-0.8	0.0						Incremental Change
		0.0	0.0	-0.8	-0.8						Cumulative Change
2+75	41.3	41.3	41.3	39.9	39.9						Baseline Offset (In Feet)
		0.0	0.0	-1.4	0.0						Incremental Change
		0.0	0.0	-1.4	-1.4						Cumulative Change

**Alpine CP 00
HDD West Site
Streambank Monitor**

Baseline Station	Streambank Monitor - Top of Bank Locations										Description
	See Drawing CE-CP00-143 Rev 3 for Survey Baseline Location										
	4/7/2002	7/8/2002	7/10/2003	6/20/2004	7/10/2005	Future	Future	Future	Future	Future	Date
2+80	41.5	41.5	41.5	39.4	39.4						Baseline Offset (In Feet)
		0.0	0.0	-2.2	0.0						Incremental Change
		0.0	0.0	-2.2	-2.2						Cumulative Change
2+85	41.7	41.7	41.7	39.6	39.6						Baseline Offset (In Feet)
		0.0	0.0	-2.1	0.0						Incremental Change
		0.0	0.0	-2.1	-2.1						Cumulative Change
2+90	43.5	43.5	41.5	40.8	40.8						Baseline Offset (In Feet)
		0.0	-1.9	-0.7	0.0						Incremental Change
		0.0	-1.9	-2.6	-2.6						Cumulative Change
3+00	47.0	47.0	46.1	46.1	44.8						Baseline Offset (In Feet)
		0.0	-0.9	0.0	-1.3						Incremental Change
		0.0	-0.9	-0.9	-2.2						Cumulative Change
3+10	47.1	43.6	43.6	43.6	43.6						Baseline Offset (In Feet)
		-3.5	0.0	0.0	0.0						Incremental Change
		-3.5	-3.5	-3.5	-3.5						Cumulative Change
3+15	47.4	42.9	42.9	42.9	42.3						Baseline Offset (In Feet)
		-4.5	0.0	0.0	-0.6						Incremental Change
		-4.5	-4.5	-4.5	-5.2						Cumulative Change
3+25	47.3	44.6	44.6	44.4	42.3						Baseline Offset (In Feet)
		-2.7	0.0	-0.2	-2.1						Incremental Change
		-2.7	-2.7	-2.9	-5.0						Cumulative Change

**Alpine CP 00
HDD West Site
Streambank Monitor**

Baseline Station	Streambank Monitor - Top of Bank Locations										Description
	See Drawing CE-CP00-143 Rev 3 for Survey Baseline Location										
	4/7/2002	7/8/2002	7/10/2003	6/20/2004	7/10/2005	Future	Future	Future	Future	Future	Date
3+30	45.4	44.0	44.0	43.2	42.7						Baseline Offset (In Feet)
		-1.4	0.0	-0.9	-0.5						Incremental Change
		-1.4	-1.4	-2.2	-2.7						Cumulative Change
3+35	43.4	43.4	43.4	43.4	42.0						Baseline Offset (In Feet)
		0.0	0.0	0.0	-1.4						Incremental Change
		0.0	0.0	0.0	-1.4						Cumulative Change
3+40	44.8	44.8	44.0	44.0	41.3						Baseline Offset (In Feet)
		0.0	-0.8	0.0	-2.6						Incremental Change
		0.0	-0.8	-0.8	-3.4						Cumulative Change
3+45	45.2	45.2	44.2	44.2	42.8						Baseline Offset (In Feet)
		0.0	-1.0	0.0	-1.5						Incremental Change
		0.0	-1.0	-1.0	-2.5						Cumulative Change
3+50	44.9	44.9	44.2	44.2	42.3						Baseline Offset (In Feet)
		0.0	-0.6	0.0	-1.9						Incremental Change
		0.0	-0.6	-0.6	-2.6						Cumulative Change
3+60	44.1	44.1	44.1	44.1	43.4						Baseline Offset (In Feet)
		0.0	0.0	0.0	-0.7						Incremental Change
		0.0	0.0	0.0	-0.7						Cumulative Change
3+70	44.7	44.7	42.8	41.8	41.0						Baseline Offset (In Feet)
		0.0	-1.9	-1.1	-0.8						Incremental Change
		0.0	-1.9	-2.9	-3.7						Cumulative Change

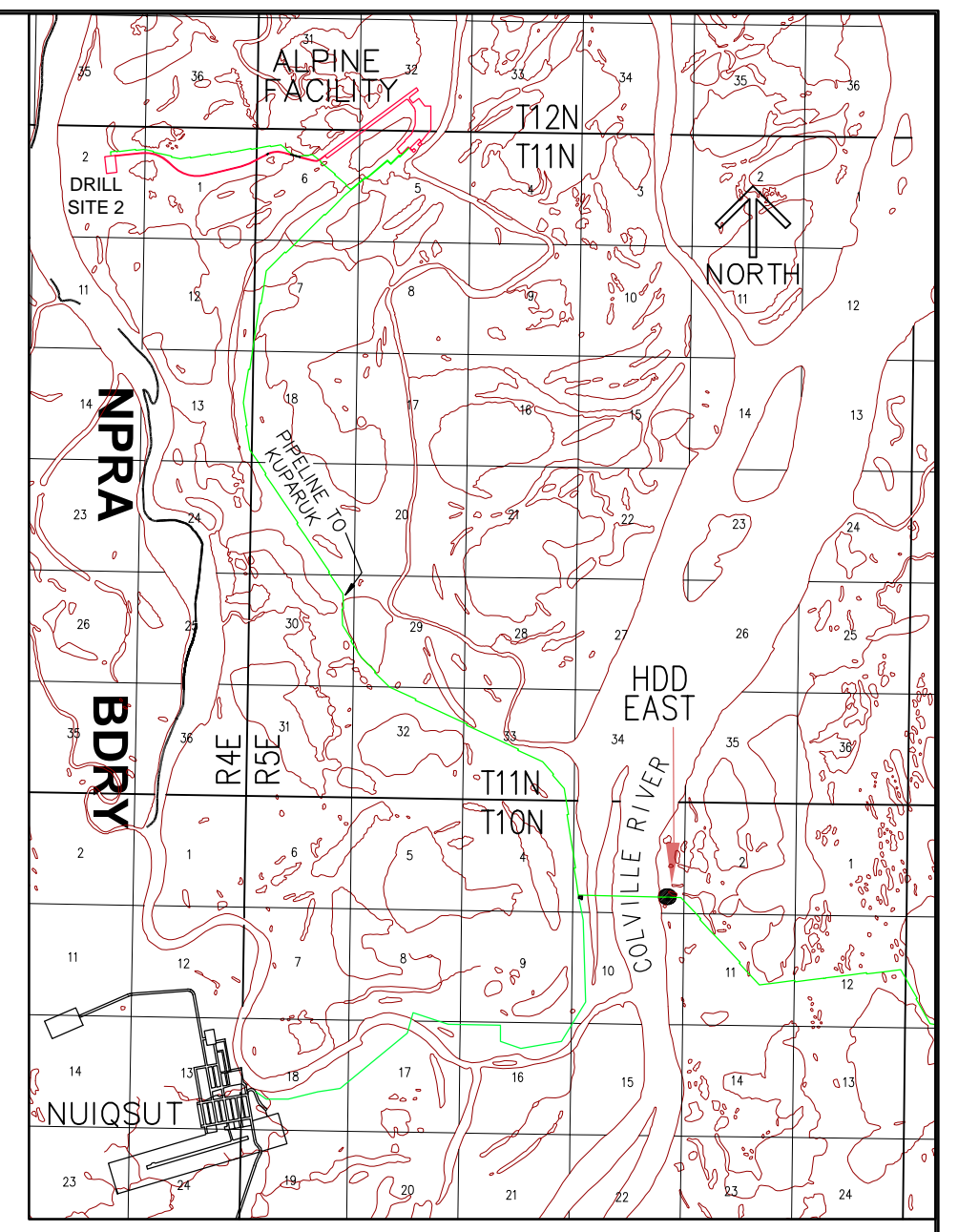
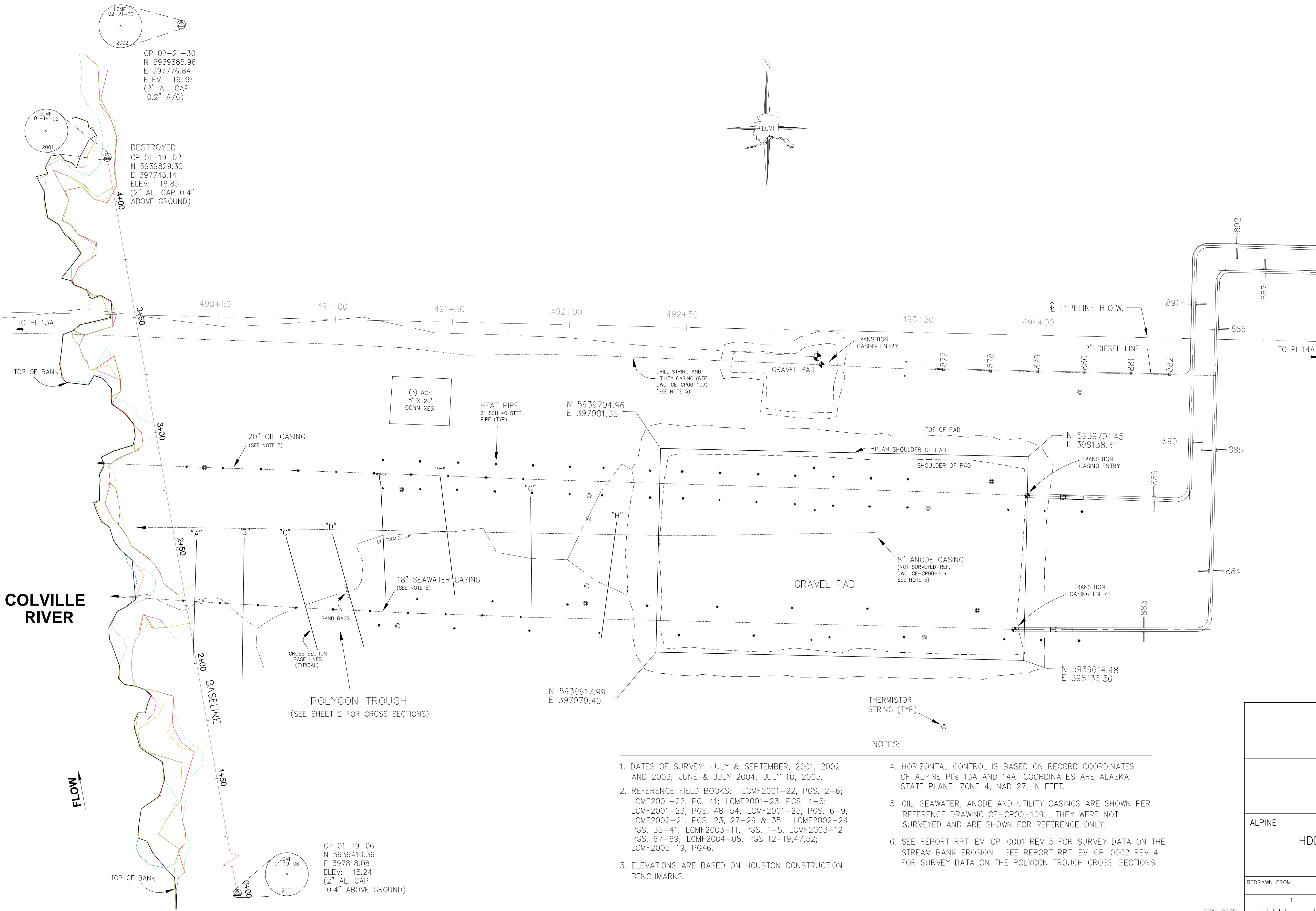
**Alpine CP 00
HDD West Site
Streambank Monitor**

Baseline Station	Streambank Monitor - Top of Bank Locations										Description
	See Drawing CE-CP00-143 Rev 3 for Survey Baseline Location										
	4/7/2002	7/8/2002	7/10/2003	6/20/2004	7/10/2005	Future	Future	Future	Future	Future	Date
3+75	23.6	23.6	23.6	23.6	23.6						Baseline Offset (In Feet)
		0.0	0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0	0.0						Cumulative Change
3+85	23.1	23.1	23.1	23.1	23.1						Baseline Offset (In Feet)
		0.0	0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0	0.0						Cumulative Change
4+00	28.4	28.4	28.4	28.4	26.5						Baseline Offset (In Feet)
		0.0	0.0	0.0	-1.8						Incremental Change
		0.0	0.0	0.0	-1.8						Cumulative Change
4+10	37.4	37.1	37.1	37.1	33.0						Baseline Offset (In Feet)
		-0.3	0.0	0.0	-4.1						Incremental Change
		-0.3	-0.3	-0.3	-4.4						Cumulative Change
4+25	45.9	42.2	42.2	42.2	40.4						Baseline Offset (In Feet)
		-3.7	0.0	0.0	-1.9						Incremental Change
		-3.7	-3.7	-3.7	-5.5						Cumulative Change
4+30	47.3	43.2	43.2	42.1	41.2						Baseline Offset (In Feet)
		-4.2	0.0	-1.1	-0.9						Incremental Change
		-4.2	-4.2	-5.2	-6.2						Cumulative Change
4+35	48.8	43.1	43.1	41.9	41.9						Baseline Offset (In Feet)
		-5.7	0.0	-1.3	0.0						Incremental Change
		-5.7	-5.7	-7.0	-7.0						Cumulative Change

**Alpine CP 00
HDD West Site
Streambank Monitor**

Baseline Station	Streambank Monitor - Top of Bank Locations										Description
	See Drawing CE-CP00-143 Rev 3 for Survey Baseline Location										
	4/7/2002	7/8/2002	7/10/2003	6/20/2004	7/10/2005	Future	Future	Future	Future	Future	Date
4+40	50.9	42.5	42.5	42.1	42.1						Baseline Offset (In Feet)
		-8.4	0.0	-0.4	0.0						Incremental Change
		-8.4	-8.4	-8.9	-8.9						Cumulative Change
***Note: Survey completed on 4/7/02 was used for baseline data to compute Incremental/Cumulative Change. Negative numbers indicate erosion.											

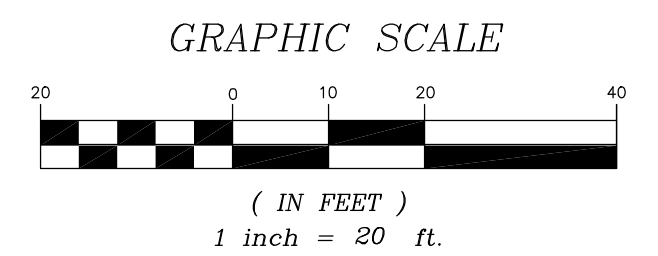
Appendix C HDD East Survey Data



VICINITY MAP
 NO SCALE

LEGEND

- HEAT PIPE
- ⊕ THERMISTOR STRING
- ◆ TRANSITION CASING ENTRY POINT
- 1' CONTOUR LINES
- PILE
- ⊙ SURVEY CONTROL
- TOP OF BANK 8/7/01
- TOP OF BANK 9/8/01
- TOP OF BANK 7/9/02
- TOP OF BANK 9/12/02
- TOP OF BANK 7/9/03
- TOP OF BANK 9/8/03
- TOP OF BANK 6/19/04
- TOP OF BANK 7/10/05



COLVILLE RIVER

FLOW

- NOTES:
- DATES OF SURVEY: JULY & SEPTEMBER, 2001, 2002 AND 2003; JUNE & JULY 2004; JULY 10, 2005.
 - REFERENCE FIELD BOOKS: LCMF2001-22, PGS. 2-6; LCMF2001-22, PG. 41; LCMF2001-23, PGS. 4-6; LCMF2001-23, PGS. 48-54; LCMF2001-25, PGS. 6-9; LCMF2002-21, PGS. 23, 27-29 & 35; LCMF2002-24, PGS. 35-41; LCMF2003-11, PGS. 1-5, LCMF2003-12 PGS. 67-69; LCMF2004-08, PGS 12-19,47,52; LCMF2005-19, PG46.
 - ELEVATIONS ARE BASED ON HOUSTON CONSTRUCTION BENCHMARKS.
 - HORIZONTAL CONTROL IS BASED ON RECORD COORDINATES OF ALPINE PIs 13A AND 14A. COORDINATES ARE ALASKA STATE PLANE, ZONE 4, NAD 27, IN FEET.
 - OIL, SEAWATER, ANODE AND UTILITY CASINGS ARE SHOWN PER REFERENCE DRAWING CE-CP00-109. THEY WERE NOT SURVEYED AND ARE SHOWN FOR REFERENCE ONLY.
 - SEE REPORT RPT-EV-CP-0001 REV 5 FOR SURVEY DATA ON THE STREAM BANK EROSION. SEE REPORT RPT-EV-CP-0002 REV 4 FOR SURVEY DATA ON THE POLYGON TROUGH CROSS-SECTIONS.

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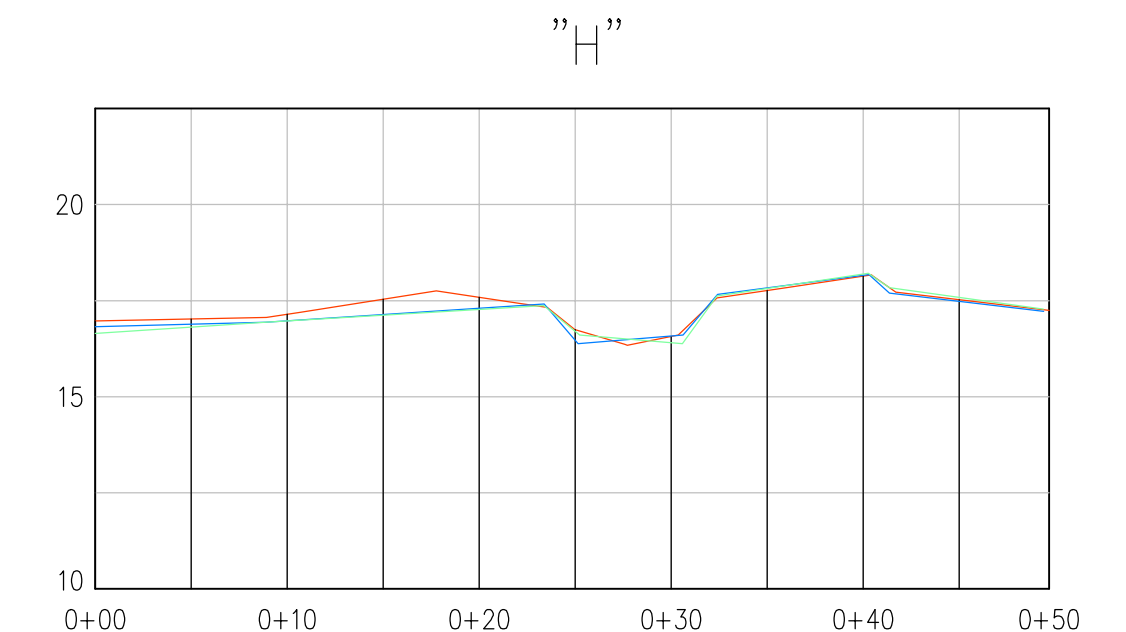
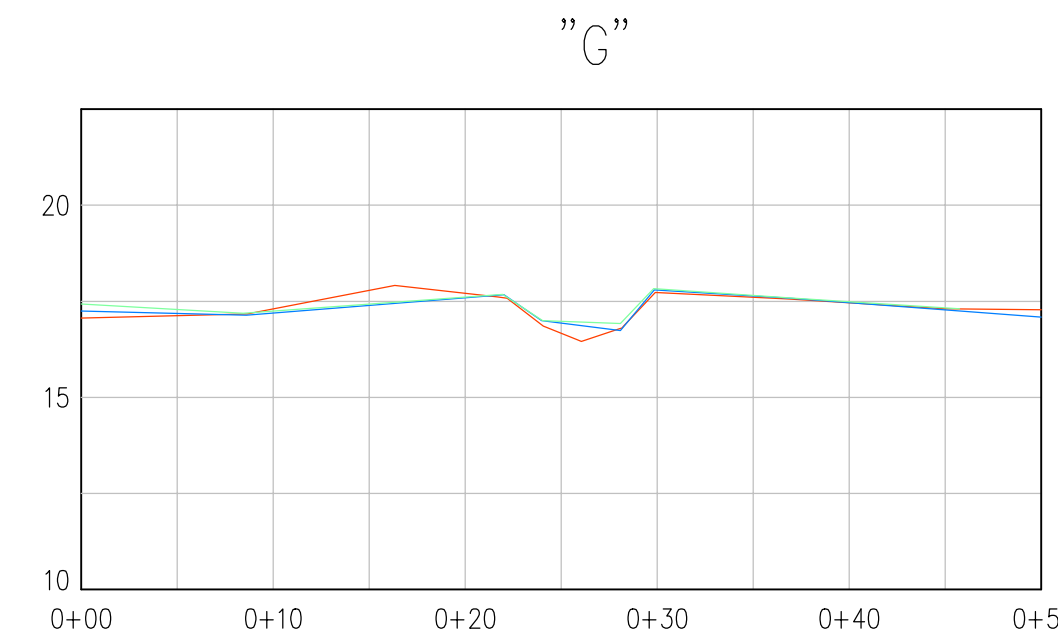
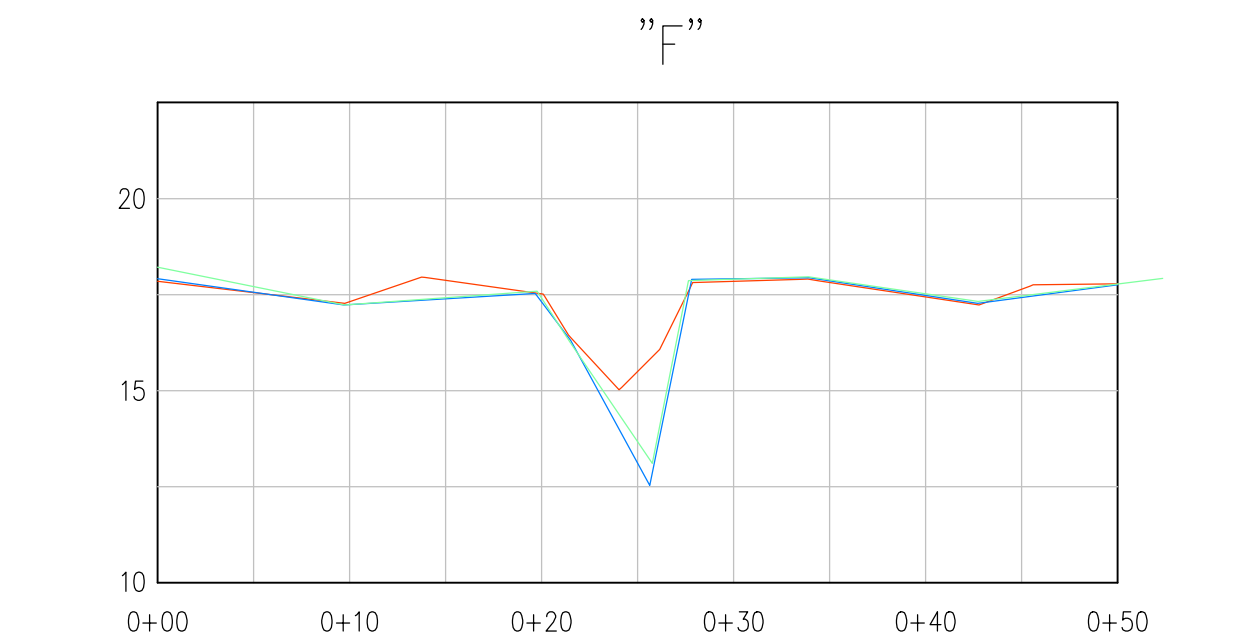
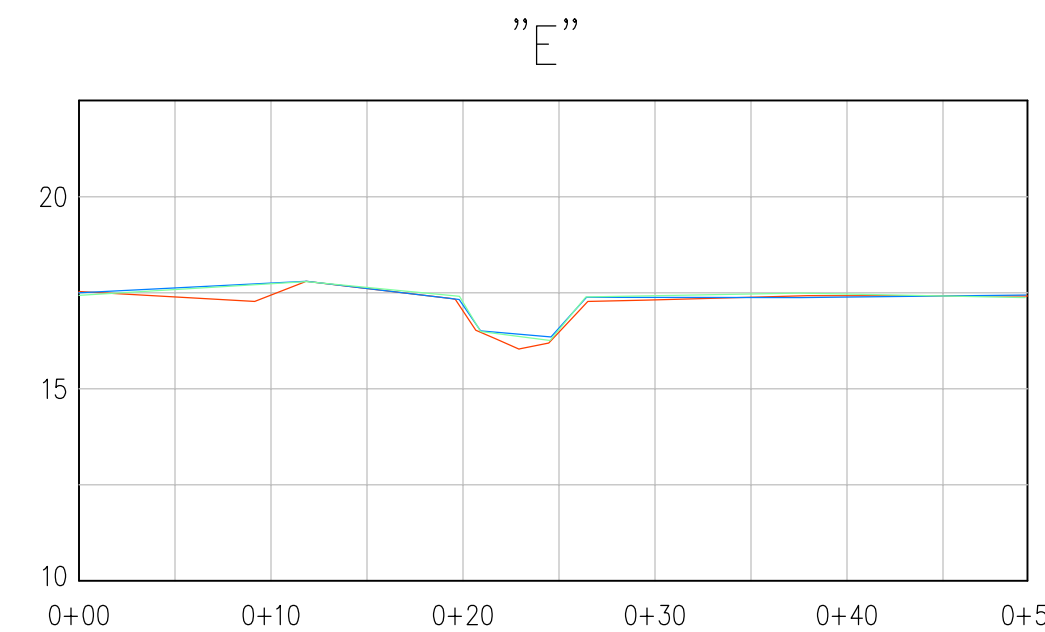
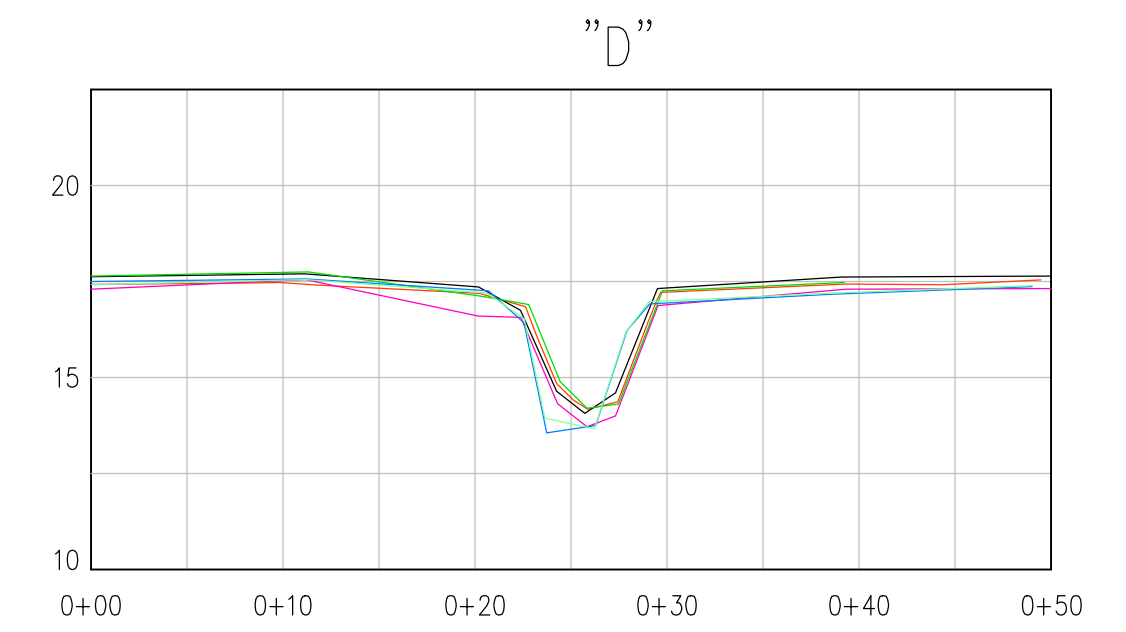
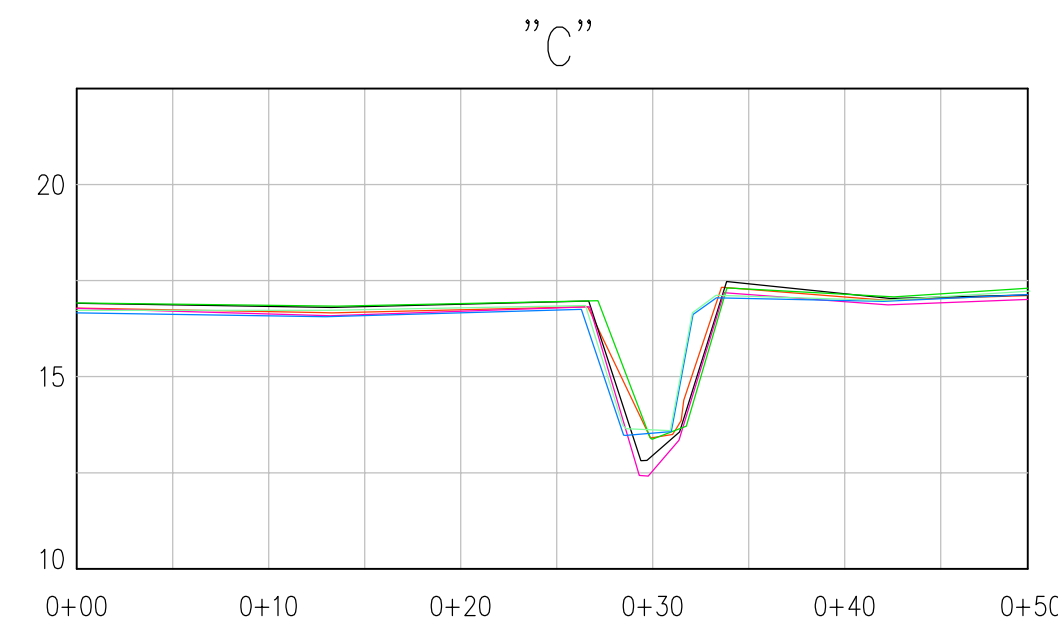
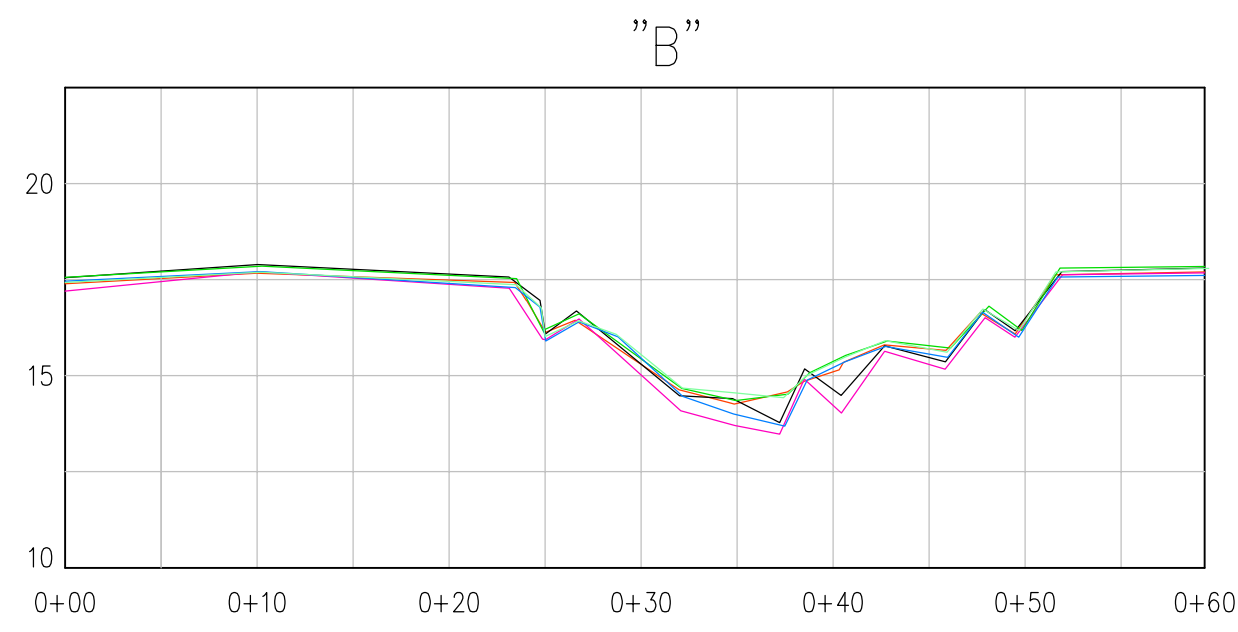
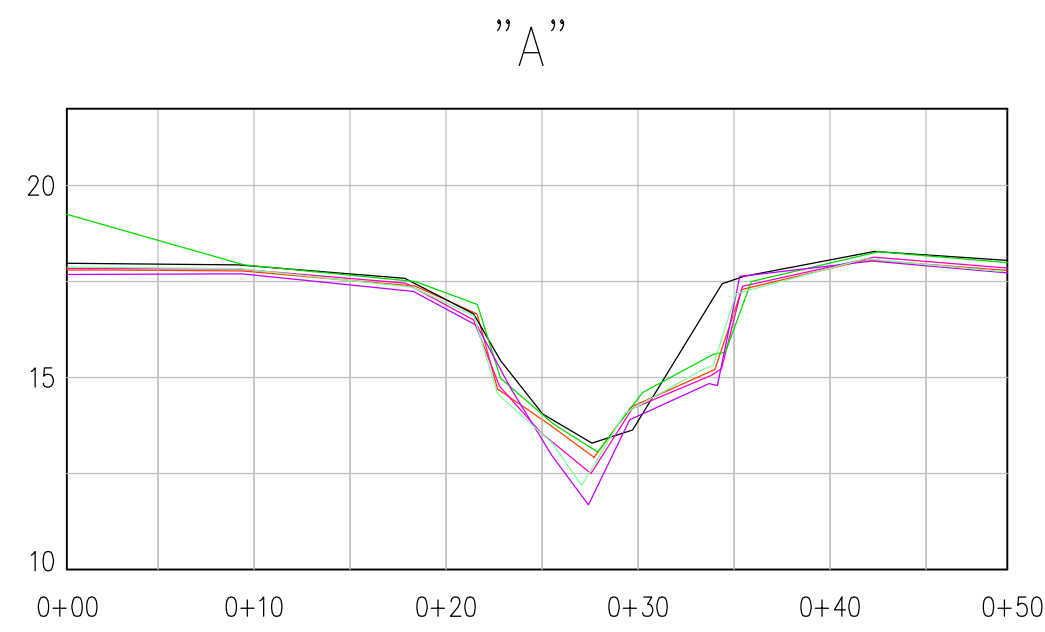
ALPINE MODULE: CP00 UNIT: CP
 HDD BANK EROSION TOPO/MONITORING
 HDD SITE - EAST
 ALPINE FACILITY

REDRAWN FROM:	CONSTRUCTION SHEET
1 2 3 4 5 6	OF
DO NOT SCALE	ABOVE SCALE FOR REFERENCE ONLY
DATE: 7/31/01	DRAWN: GD/CZ DESIGN: ECM NO: A01007ACS
SCALE: 1"=20'	CHECKED: JZ CC NO:
	APPROVAL: CD CADD FILE NO: 01-12-05-1EAST
JOB NO: 02-205	SUB JOB NO: DRAWING NO: CE-CP00-134
	PART: 1 of 2 REV: 4

REFERENCE DWG NO/SHT NO:	4 7/11/05	UPDATED PER 3391755ACS	CZ	GD
CE-CP00-109	3 6/27/04	ISSUED PER 2390460ACS	CZ	BD
PD-CP00-130 SHEET 1	2 12/31/03	ISSUED PER 2094387ACS-ADDED SHEET 2 AND 2003 DATA	GD/CZ	JZ
	1 11/1/02	ISSUED PER 1870227ACS	CZ	JZ
	0 7/31/01	ISSUED PER A01007ACS	RLW	JZ
REV	DATE	REVISIONS	BY	CHK

CROSS SECTIONS, POLYGON TROUGH

HORIZONTAL SCALE = 1"=10' VERTICAL SCALE = 1"=5'

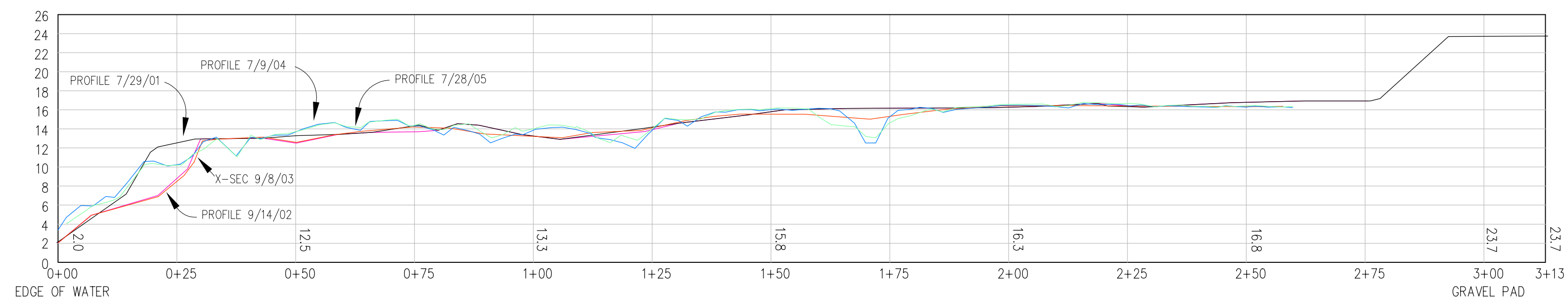


LEGEND

- CROSS SECTION 8/23/01
- CROSS SECTION 9/14/02
- CROSS SECTION 7/9/03
- CROSS SECTION 9/8/03
- CROSS SECTION 7/9/04
- CROSS SECTION 7/28/05

CENTERLINE PROFILE, POLYGON TROUGH

HORIZONTAL SCALE = 1"=20' VERTICAL SCALE = 1"=10'



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Alpine Survey Office



ALPINE MODULE: CP00 UNIT: CP
HDD BANK EROSION TOPO/MONITORING
HDD SITE - EAST
ALPINE FACILITY

REDRAWN FROM: CONSTRUCTION SHEET OF
DO NOT SCALE ABOVE SCALE FOR REFERENCE ONLY

DATE: 12/31/03 DRAWN: GD/CZ DESIGN: ECM NO: 2094387ACS
CHECKED: JZ CC NO:
SCALE: 1"=20' APPROVAL: COLEGROVE/KANADY CADD FILE NO: 01-12-05-1EAST
JOB NO: 02-205 SUB JOB NO: DRAWING NO: CE-CP00-134 PART: 2 OF 2 REV: 3

REFERENCE DWG NO./SHT NO:	CE-CP00-109
	PD-CP00-130 SHEET 1

REV	DATE	REVISIONS	BY	CHK	JOB ENGR	PROJ ENGR	CUST APP	REV	DATE	REVISIONS	BY	CHK	JOB ENGR	PROJ ENGR	CUST APP
3	7/28/05	UPDATED PER 3391755ACS									CZ	GD			
2	7/9/04	ISSUED PER 2390460ACS									AG	GD			
1	12/31/03	ISSUED PER 2094387ACS									GD	JZ			C/K

**Alpine CP 00
 HDD East Site
 Streambank Monitor**

Baseline Station	Streambank Monitor - Top of Bank Locations										Description
	See Drawing CE-CP00-134 Rev 3 for Survey Baseline Stations										
	7/29/2001	8/7/2001	8/15/2001	8/23/2001	9/8/2001	7/8/2002	9/12/2002	7/9/2003	9/8/2003	6/19/2004	Date
0+10	N/A	N/A	N/A	N/A	N/A	N/A	-25.3	-25.3	-25.3	-25.3	Baseline Offset (In Feet)
								0.0	0.0	0.0	Incremental Change
								0.0	0.0	0.0	Cumulative Change
0+20	N/A	N/A	N/A	N/A	N/A	N/A	-32.1	-30.9	-30.9	-30.9	Baseline Offset (In Feet)
								-1.2	0.0	0.0	Incremental Change
								-1.2	-1.2	-1.2	Cumulative Change
0+25	N/A	N/A	N/A	N/A	N/A	N/A	-38.2	-38.2	-38.2	-38.2	Baseline Offset (In Feet)
								0.0	0.0	0.0	Incremental Change
								0.0	0.0	0.0	Cumulative Change
0+30	N/A	N/A	N/A	N/A	N/A	N/A	-41.1	-41.1	-41.1	-41.1	Baseline Offset (In Feet)
								0.0	0.0	0.0	Incremental Change
								0.0	0.0	0.0	Cumulative Change
0+40	N/A	N/A	N/A	N/A	N/A	N/A	-37.7	-37.7	-37.7	-37.7	Baseline Offset (In Feet)
								0.0	0.0	0.0	Incremental Change
								0.0	0.0	0.0	Cumulative Change
0+50	N/A	N/A	N/A	N/A	N/A	N/A	-30.3	-30.3	-30.3	-30.3	Baseline Offset (In Feet)
								0.0	0.0	0.0	Incremental Change
								0.0	0.0	0.0	Cumulative Change
0+60	N/A	N/A	N/A	N/A	N/A	N/A	-28.0	-27.9	-27.5	-27.5	Baseline Offset (In Feet)
								-0.1	-0.5	0.0	Incremental Change
								-0.1	-0.5	-0.5	Cumulative Change

**Alpine CP 00
 HDD East Site
 Streambank Monitor**

Baseline Station	Streambank Monitor - Top of Bank Locations										Description
	See Drawing CE-CP00-134 Rev 3 for Survey Baseline Stations										
	7/29/2001	8/7/2001	8/15/2001	8/23/2001	9/8/2001	7/8/2002	9/12/2002	7/9/2003	9/8/2003	6/19/2004	Date
0+65	N/A	N/A	N/A	N/A	N/A	N/A	-39.8	-39.8	-23.9	-23.9	Baseline Offset (In Feet)
								0.0	-16.0	0.0	Incremental Change
								0.0	-16.0	-16.0	Cumulative Change
0+70	N/A	-32.4	N/A	-31.2	-31.2	-31.5	-27.7	-27.7	-20.0	-20.0	Baseline Offset (In Feet)
				-1.2	0.0	0.3	-3.8	0.0	-7.7	0.0	Incremental Change
				-1.2	-1.2	-0.9	-4.7	-4.7	-12.4	-12.4	Cumulative Change
0+75	N/A	-27.1	-27.0	-27.0	-27.1	-27.0	-27.2	-27.6	-21.1	-21.0	Baseline Offset (In Feet)
			-0.1	0.0	0.1	-0.1	0.2	0.4	-6.5	-0.1	Incremental Change
			-0.1	-0.1	0.0	-0.1	0.1	0.5	-6.0	-6.1	Cumulative Change
0+80	N/A	-26.4	N/A	-26.6	-26.5	-26.5	-27.5	-27.5	-22.4	-22.4	Baseline Offset (In Feet)
				0.2	-0.1	0.0	1.0	0.0	-5.1	0.0	Incremental Change
				0.2	0.1	0.0	1.1	1.1	-4.0	-4.0	Cumulative Change
0+90	N/A	-29.2	N/A	-28.9	-29.2	-29.2	-29.2	-29.2	-29.2	-27.8	Baseline Offset (In Feet)
				-0.3	0.3	0.0	0.0	0.0	0.0	-1.5	Incremental Change
				-0.3	0.0	0.0	0.0	0.0	0.0	-1.5	Cumulative Change
1+00	N/A	-26.7	-26.9	-26.3	-26.8	-26.7	-26.7	-26.7	-26.7	-26.7	Baseline Offset (In Feet)
			0.2	-0.6	0.5	-0.1	0.0	0.0	0.0	0.0	Incremental Change
			0.2	-0.4	0.1	0.0	0.0	0.0	0.0	0.0	Cumulative Change
1+10	N/A	-25.6	N/A	-25.3	-25.4	-25.6	-25.6	-25.6	-23.9	-23.9	Baseline Offset (In Feet)
				-0.3	0.1	0.2	0.0	0.0	-1.7	0.0	Incremental Change
				-0.3	-0.2	0.0	0.0	0.0	-1.7	-1.7	Cumulative Change

**Alpine CP 00
 HDD East Site
 Streambank Monitor**

Baseline Station	Streambank Monitor - Top of Bank Locations										Description
	See Drawing CE-CP00-134 Rev 3 for Survey Baseline Stations										
	7/29/2001	8/7/2001	8/15/2001	8/23/2001	9/8/2001	7/8/2002	9/12/2002	7/9/2003	9/8/2003	6/19/2004	Date
1+15	N/A	-27.6	N/A	-27.5	-27.6	-27.6	-24.5	-24.5	-20.8	-20.8	Baseline Offset (In Feet)
				-0.1	0.1	0.0	-3.1	0.0	-3.7	0.0	Incremental Change
				-0.1	0.0	0.0	-3.1	-3.1	-6.8	-6.8	Cumulative Change
1+20	N/A	-35.5	N/A	-30.5	-30.5	-22.1	-22.6	-22.6	-21.4	-21.4	Baseline Offset (In Feet)
				-5.0	0.0	-8.4	0.4	0.0	-1.2	0.0	Incremental Change
				-5.0	-5.0	-13.4	-12.9	-12.9	-14.0	-14.1	Cumulative Change
1+25	-38.4	-38.7	-39.1	-33.0	-32.8	-22.5	-23.0	-22.9	-18.1	-18.1	Baseline Offset (In Feet)
			0.4	-6.1	-0.2	-10.3	0.5	-0.1	-4.8	0.0	Incremental Change
			0.4	-5.7	-5.9	-16.2	-15.7	-15.8	-20.6	-20.6	Cumulative Change
1+30	N/A	-37.8	N/A	-36.2	-36.1	-27.7	-28.0	-27.9	-17.3	-17.3	Baseline Offset (In Feet)
				-1.6	-0.1	-8.4	0.2	-0.1	-10.6	0.0	Incremental Change
				-1.6	-1.7	-10.1	-9.9	-9.9	-20.5	-20.5	Cumulative Change
1+40	N/A	-33.8	N/A	-35.0	-34.9	-21.3	-20.6	-20.6	-17.1	-17.1	Baseline Offset (In Feet)
				1.2	-0.1	-13.6	-0.8	0.0	-3.5	0.0	Incremental Change
				1.2	1.1	-12.5	-13.3	-13.2	-16.7	-16.7	Cumulative Change
1+45	N/A	-28.2	N/A	-29.5	-28.8	18.6	-16.5	-16.5	-16.1	-16.1	Baseline Offset (In Feet)
				1.3	-0.7	-47.4	35.0	0.0	-0.4	0.0	Incremental Change
				1.3	0.6	-46.8	-11.7	-11.7	-12.1	-12.1	Cumulative Change
1+50	-18.4	-23.7	-23.8	-23.9	-23.8	-20.7	-15.6	-15.6	-13.8	-13.8	Baseline Offset (In Feet)
			0.1	0.1	-0.1	-3.1	-5.1	0.0	-1.8	0.0	Incremental Change
			0.1	0.2	0.1	-3.0	-8.1	-8.1	-9.9	-9.9	Cumulative Change

**Alpine CP 00
 HDD East Site
 Streambank Monitor**

Baseline Station	Streambank Monitor - Top of Bank Locations										Description
	See Drawing CE-CP00-134 Rev 3 for Survey Baseline Stations										
	7/29/2001	8/7/2001	8/15/2001	8/23/2001	9/8/2001	7/8/2002	9/12/2002	7/9/2003	9/8/2003	6/19/2004	Date
1+55	N/A	-22.2	N/A	-21.9	-22.2	-21.8	-14.5	-14.5	-11.5	-11.5	Baseline Offset (In Feet)
				-0.2	0.3	-0.4	-7.3	0.0	-3.0	0.0	Incremental Change
				-0.2	0.1	-0.4	-7.7	-7.7	-10.7	-10.7	Cumulative Change
1+60	-17.1	-21.6	-21.8	-21.7	-21.6	-21.4	-15.1	-14.9	-9.0	-9.0	Baseline Offset (In Feet)
			0.2	-0.1	-0.1	-0.2	-6.3	-0.2	-5.9	0.0	Incremental Change
			0.2	0.1	0.0	-0.2	-6.5	-6.7	-12.6	-12.6	Cumulative Change
1+65	N/A	-26.2	N/A	-26.3	-26.5	-25.8	-24.9	-24.6	-11.4	-9.7	Baseline Offset (In Feet)
				0.0	0.2	-0.6	-1.0	-0.2	-13.3	-1.7	Incremental Change
				0.0	0.2	-0.4	-1.4	-1.6	-14.9	-16.6	Cumulative Change
1+70	N/A	-30.1	N/A	-30.1	-30.1	-29.6	-29.7	-29.7	-15.7	-13.0	Baseline Offset (In Feet)
				0.1	0.0	-0.5	0.2	0.0	-14.1	-2.7	Incremental Change
				0.1	0.0	-0.5	-0.3	-0.3	-14.4	-17.1	Cumulative Change
1+75	-30.4	-30.7	-31.1	-30.7	-30.5	-30.0	-29.6	-29.6	-16.1	-14.4	Baseline Offset (In Feet)
			0.4	-0.4	-0.2	-0.5	-0.4	0.0	-13.5	-1.7	Incremental Change
			0.4	0.0	-0.2	-0.7	-1.1	-1.1	-14.6	-16.3	Cumulative Change
1+80	N/A	-30.2	N/A	-30.7	-29.4	-30.2	-24.6	-22.1	-13.9	-13.9	Baseline Offset (In Feet)
				0.5	-1.3	0.8	-5.7	-2.4	-8.3	0.0	Incremental Change
				0.5	-0.8	0.0	-5.7	-8.1	-16.4	-16.4	Cumulative Change
1+85	-27.1	-24.5	-24.4	-24.2	-24.5	-24.5	-20.5	-17.0	-12.7	-12.7	Baseline Offset (In Feet)
			-0.1	-0.2	0.3	0.0	-4.0	-3.5	-4.3	0.0	Incremental Change
			-0.1	-0.3	0.0	0.0	-4.0	-7.5	-11.8	-11.8	Cumulative Change

**Alpine CP 00
 HDD East Site
 Streambank Monitor**

Baseline Station	Streambank Monitor - Top of Bank Locations										Description
	See Drawing CE-CP00-134 Rev 3 for Survey Baseline Stations										
	7/29/2001	8/7/2001	8/15/2001	8/23/2001	9/8/2001	7/8/2002	9/12/2002	7/9/2003	9/8/2003	6/19/2004	Date
1+90	N/A	-12.8	N/A	-21.4	-21.5	-21.6	-21.9	-19.5	-16.9	-16.9	Baseline Offset (In Feet)
				8.6	0.0	0.1	0.3	-2.4	-2.6	0.0	Incremental Change
				8.6	8.7	8.8	9.1	6.7	4.1	4.1	Cumulative Change
1+95	N/A	-27.6	N/A	-27.8	-28.5	-27.7	-27.7	-27.7	-27.7	-27.7	Baseline Offset (In Feet)
				0.2	0.7	-0.9	0.0	0.0	0.0	0.0	Incremental Change
				0.2	0.9	0.1	0.1	0.1	0.1	0.1	Cumulative Change
2+00	-32.6	-33.7	-33.8	-33.7	-33.4	-33.7	-27.8	-27.8	-27.8	-27.8	Baseline Offset (In Feet)
			0.1	-0.1	-0.3	0.3	-5.9	0.0	0.0	0.0	Incremental Change
			0.1	0.0	-0.3	0.0	-5.9	-5.9	-5.9	-5.9	Cumulative Change
2+05	N/A	-32.9	N/A	-32.7	-32.6	-32.5	-27.3	-27.3	-27.3	-27.3	Baseline Offset (In Feet)
				-0.3	-0.1	-0.1	-5.2	0.0	0.0	0.0	Incremental Change
				-0.3	-0.4	-0.4	-5.6	-5.6	-5.6	-5.6	Cumulative Change
2+10	N/A	-33.7	N/A	-33.5	-33.5	-29.1	-26.0	-26.0	-26.0	-26.0	Baseline Offset (In Feet)
				-0.2	0.0	-4.4	-3.2	0.0	0.0	0.0	Incremental Change
				-0.2	-0.2	-4.6	-7.8	-7.8	-7.8	-7.7	Cumulative Change
2+15	-32.9	-34.9	-35.4	-34.5	-34.5	-28.8	-23.2	-23.2	-23.2	-23.2	Baseline Offset (In Feet)
			0.5	-0.9	0.0	-5.7	-5.6	0.0	0.0	0.0	Incremental Change
			0.5	-0.4	-0.4	-6.1	-11.7	-11.7	-11.7	-11.7	Cumulative Change
2+20	N/A	-34.4	N/A	-34.4	-34.9	-32.0	-21.0	-21.0	-21.0	-20.4	Baseline Offset (In Feet)
				0.0	0.5	-2.9	-11.0	0.0	0.0	-0.6	Incremental Change
				0.0	0.5	-2.4	-13.4	-13.4	-13.4	-14.0	Cumulative Change

**Alpine CP 00
 HDD East Site
 Streambank Monitor**

Baseline Station	Streambank Monitor - Top of Bank Locations										Description
	See Drawing CE-CP00-134 Rev 3 for Survey Baseline Stations										
	7/29/2001	8/7/2001	8/15/2001	8/23/2001	9/8/2001	7/8/2002	9/12/2002	7/9/2003	9/8/2003	6/19/2004	Date
2+25	-30.0	-32.0	-31.5	-31.5	-31.2	-31.1	-18.4	-18.4	-8.0	-5.2	Baseline Offset (In Feet)
			-0.5	0.0	-0.3	-0.1	-12.7	0.0	-10.4	-2.9	Incremental Change
			-0.5	-0.5	-0.8	-0.9	-13.6	-13.6	-24.0	-26.8	Cumulative Change
2+30	-22.0	-23.4	-22.6	-23.5	-23.2	-19.7	-13.7	-13.7	2.4	2.4	Baseline Offset (In Feet)
			-0.8	0.9	-0.3	-3.5	-6.0	0.0	-16.1	0.0	Incremental Change
			-0.8	0.1	-0.2	-3.7	-9.7	-9.7	-25.8	-25.8	Cumulative Change
2+35	-21.7	-20.6	-20.1	-20.6	-18.8	-11.7	-8.9	-7.0	-7.0	-7.1	Baseline Offset (In Feet)
			-0.5	0.5	-1.8	-7.1	-2.8	-1.9	0.0	0.1	Incremental Change
			-0.5	0.0	-1.8	-8.9	-11.7	-13.6	-13.6	-13.5	Cumulative Change
2+40	N/A	-19.2	N/A	-20.1	-15.9	-12.0	-8.3	-8.3	-8.3	-8.3	Baseline Offset (In Feet)
				0.9	-4.2	-3.9	-3.6	0.0	0.0	0.0	Incremental Change
				0.9	-3.3	-7.2	-10.8	-10.8	-10.8	-10.8	Cumulative Change
2+50	-21.0	-21.8	-21.3	-21.0	-21.0	-20.7	-14.7	-14.6	-14.6	-14.6	Baseline Offset (In Feet)
			-0.5	-0.3	0.0	-0.3	-6.0	-0.1	0.0	0.0	Incremental Change
			-0.5	-0.8	-0.8	-1.1	-7.1	-7.2	-7.2	-7.2	Cumulative Change
2+60	-26.1	-26.5	-26.7	-26.1	-26.0	-25.9	-20.5	-20.6	-20.6	-20.5	Baseline Offset (In Feet)
			0.2	-0.6	-0.1	-0.1	-5.4	0.1	0.0	-0.1	Incremental Change
			0.2	-0.4	-0.5	-0.6	-6.0	-5.9	-5.9	-6.0	Cumulative Change
2+70	-28.9	-30.4	-30.9	-30.4	-30.0	-30.6	-25.5	-25.4	-20.8	-20.8	Baseline Offset (In Feet)
			0.5	-0.5	-0.4	0.6	-5.1	-0.1	-4.6	0.0	Incremental Change
			0.5	0.0	-0.4	0.2	-4.9	-5.0	-9.6	-9.6	Cumulative Change

**Alpine CP 00
 HDD East Site
 Streambank Monitor**

Baseline Station	Streambank Monitor - Top of Bank Locations										Description
	See Drawing CE-CP00-134 Rev 3 for Survey Baseline Stations										
	7/29/2001	8/7/2001	8/15/2001	8/23/2001	9/8/2001	7/8/2002	9/12/2002	7/9/2003	9/8/2003	6/19/2004	Date
2+75	-28.4	-31.4	-31.4	-31.3	-30.7	-31.2	-26.1	-26.0	-20.9	-20.9	Baseline Offset (In Feet)
			0.0	-0.1	-0.6	0.5	-5.1	-0.1	-5.1	0.0	Incremental Change
			0.0	-0.1	-0.7	-0.2	-5.3	-5.4	-10.5	-10.5	Cumulative Change
2+85	-27.5	-26.9	-27.1	-26.9	-26.8	-26.8	-22.8	-22.8	-22.8	-22.8	Baseline Offset (In Feet)
			0.2	-0.2	-0.1	0.0	-4.0	0.0	0.0	0.0	Incremental Change
			0.2	0.0	-0.1	-0.1	-4.1	-4.1	-4.1	-4.1	Cumulative Change
2+90	-24.5	-24.5	-24.8	-24.2	-24.5	-24.5	-21.4	-21.4	-21.4	-21.3	Baseline Offset (In Feet)
			0.3	-0.6	0.3	0.0	-3.1	0.0	0.0	-0.1	Incremental Change
			0.3	-0.3	0.0	0.0	-3.1	-3.1	-3.1	-3.2	Cumulative Change
3+00	-5.5	-9.1	-9.2	-8.9	-8.7	-9.0	-9.0	-8.9	-6.0	-6.0	Baseline Offset (In Feet)
			0.1	-0.3	-0.2	0.3	0.0	-0.1	-2.9	0.0	Incremental Change
			0.1	-0.2	-0.4	-0.1	-0.1	-0.2	-3.1	-3.1	Cumulative Change
3+10	N/A	-11.4	N/A	-11.3	-11.0	-11.4	-11.4	-11.4	-11.4	-11.4	Baseline Offset (In Feet)
				-0.1	-0.3	0.4	0.0	0.0	0.0	0.0	Incremental Change
				-0.1	-0.4	-0.1	-0.1	-0.1	-0.1	-0.1	Cumulative Change
3+15	N/A	-16.2	N/A	-16.2	-16.2	-16.1	-16.0	-15.9	-15.9	-15.9	Baseline Offset (In Feet)
				0.1	-0.1	0.0	-0.2	-0.1	0.0	0.0	Incremental Change
				0.1	0.0	0.0	-0.2	-0.3	-0.3	-0.3	Cumulative Change
3+20	N/A	-15.9	N/A	-15.6	-15.8	-15.9	-11.9	-11.9	-11.9	-11.8	Baseline Offset (In Feet)
				-0.4	0.2	0.1	-4.1	0.0	0.0	0.0	Incremental Change
				-0.4	-0.1	0.0	-4.1	-4.1	-4.1	-4.1	Cumulative Change

**Alpine CP 00
 HDD East Site
 Streambank Monitor**

Baseline Station	Streambank Monitor - Top of Bank Locations										Description
	See Drawing CE-CP00-134 Rev 3 for Survey Baseline Stations										
	7/29/2001	8/7/2001	8/15/2001	8/23/2001	9/8/2001	7/8/2002	9/12/2002	7/9/2003	9/8/2003	6/19/2004	Date
3+25	-18.5	-17.1	-17.7	-17.3	-17.3	-16.6	-11.4	-11.1	-11.1	-11.1	Baseline Offset (In Feet)
			0.6	-0.4	0.0	-0.7	-5.2	-0.3	0.0	0.0	Incremental Change
			0.6	0.2	0.2	-0.5	-5.7	-6.0	-6.0	-6.0	Cumulative Change
3+30	-34.3	-35.4	-35.7	-35.3	-35.0	-35.4	-23.4	-13.9	-11.5	-11.5	Baseline Offset (In Feet)
			0.3	-0.4	-0.3	0.4	-12.0	-9.5	-2.4	0.0	Incremental Change
			0.3	-0.1	-0.4	0.0	-12.0	-21.5	-23.9	-23.9	Cumulative Change
3+35	-35.4	-35.7	-35.7	-35.3	-35.0	-35.0	-23.8	-23.5	-23.5	-23.5	Baseline Offset (In Feet)
			0.0	-0.4	-0.3	0.0	-11.2	-0.3	0.0	0.0	Incremental Change
			0.0	-0.4	-0.7	-0.7	-11.9	-12.2	-12.2	-12.2	Cumulative Change
3+40	-33.8	-34.2	-34.1	-34.0	-33.9	-33.9	-25.4	-25.4	-25.4	-25.4	Baseline Offset (In Feet)
			-0.1	-0.1	-0.1	0.0	-8.5	0.0	0.0	0.0	Incremental Change
			-0.1	-0.2	-0.3	-0.3	-8.8	-8.8	-8.8	-8.8	Cumulative Change
3+45	-32.0	-32.4	-32.5	-32.6	-32.4	-32.5	-27.3	-27.4	-27.4	-26.4	Baseline Offset (In Feet)
			0.1	0.1	-0.2	0.1	-5.2	0.1	0.0	-1.0	Incremental Change
			0.1	0.2	0.0	0.1	-5.1	-5.0	-5.0	-6.0	Cumulative Change
3+52	-9.7	-10.1	-10.2	-10.4	-10.4	-10.1	-9.9	-8.4	-8.4	-8.4	Baseline Offset (In Feet)
			0.1	0.2	0.0	-0.3	-0.2	-1.5	0.0	0.0	Incremental Change
			0.1	0.3	0.3	0.0	-0.2	-1.7	-1.7	-1.7	Cumulative Change
3+60	N/A	-11.9	N/A	-10.8	-12.4	-11.5	-11.3	-11.2	-11.2	-10.8	Baseline Offset (In Feet)
				-1.1	1.7	-0.9	-0.2	-0.1	0.0	-0.4	Incremental Change
				-1.1	0.5	-0.4	-0.6	-0.7	-0.7	-1.1	Cumulative Change

**Alpine CP 00
 HDD East Site
 Streambank Monitor**

Baseline Station	Streambank Monitor - Top of Bank Locations										Description
	See Drawing CE-CP00-134 Rev 3 for Survey Baseline Stations										
	7/29/2001	8/7/2001	8/15/2001	8/23/2001	9/8/2001	7/8/2002	9/12/2002	7/9/2003	9/8/2003	6/19/2004	Date
3+65	N/A	-18.8	N/A	-18.5	-18.9	-18.7	-18.7	-18.7	-18.7	-18.4	Baseline Offset (In Feet)
				-0.3	0.4	-0.2	0.0	0.0	0.0	-0.3	Incremental Change
				-0.3	0.1	-0.1	-0.1	-0.1	-0.1	-0.4	Cumulative Change
3+70	N/A	-23.9	N/A	-24.1	-23.8	-24.2	-24.0	-24.0	-24.0	-24.1	Baseline Offset (In Feet)
				0.2	-0.3	0.4	-0.1	0.0	0.0	0.1	Incremental Change
				0.2	-0.2	0.2	0.1	0.0	0.0	0.2	Cumulative Change
3+75	N/A	-23.2	-23.3	-23.4	-23.3	-23.3	-20.2	-20.2	-20.2	-20.2	Baseline Offset (In Feet)
			0.1	0.1	-0.1	0.0	-3.1	0.0	0.0	0.0	Incremental Change
			0.1	0.2	0.1	0.1	-3.0	-3.0	-3.0	-3.0	Cumulative Change
3+80	N/A	-19.6	N/A	-19.0	-19.3	-19.7	-12.9	-12.9	-12.9	-11.6	Baseline Offset (In Feet)
				-0.6	0.3	0.4	-6.8	0.0	0.0	-1.3	Incremental Change
				-0.6	-0.4	0.1	-6.7	-6.7	-6.7	-8.0	Cumulative Change
3+85	N/A	-19.9	N/A	-19.9	-19.5	-19.3	-13.2	-12.3	-12.3	-12.0	Baseline Offset (In Feet)
				0.0	-0.5	-0.1	-6.1	-1.0	0.0	-0.3	Incremental Change
				0.0	-0.4	-0.6	-6.7	-7.7	-7.7	-7.9	Cumulative Change
3+95	N/A	-26.1	N/A	-25.7	-25.9	-26.3	-22.4	-22.4	-22.4	-21.9	Baseline Offset (In Feet)
				-0.4	0.2	0.4	-3.9	0.0	0.0	-0.5	Incremental Change
				-0.4	-0.2	0.2	-3.7	-3.8	-3.8	-4.2	Cumulative Change
4+00	N/A	-29.9	-30.0	-29.5	-29.7	-30.2	-21.2	-21.2	-21.2	-21.9	Baseline Offset (In Feet)
			0.1	-0.5	0.2	0.5	-9.0	0.0	0.0	0.7	Incremental Change
			0.1	-0.4	-0.2	0.3	-8.7	-8.7	-8.7	-8.0	Cumulative Change

**Alpine CP 00
 HDD East Site
 Streambank Monitor**

Baseline Station	Streambank Monitor - Top of Bank Locations										Description
	See Drawing CE-CP00-134 Rev 3 for Survey Baseline Stations										
	7/29/2001	8/7/2001	8/15/2001	8/23/2001	9/8/2001	7/8/2002	9/12/2002	7/9/2003	9/8/2003	6/19/2004	Date
4+05	N/A	-29.8	N/A	-29.4	-29.4	-29.9	-19.5	-19.5	-19.5	-19.5	Baseline Offset (In Feet)
				-0.4	0.0	0.4	-10.4	0.0	0.0	0.0	Incremental Change
				-0.4	-0.4	0.1	-10.3	-10.3	-10.3	-10.3	Cumulative Change
4+15	N/A	N/A	N/A	-30.7	-30.6	-27.3	2.7	2.6	2.6	2.6	Baseline Offset (In Feet)
					-0.1	-3.4	-29.9	0.0	0.0	0.0	Incremental Change
					-0.1	-3.4	-33.4	-33.3	-33.3	-33.3	Cumulative Change
4+25	N/A	N/A	N/A	-8.6	-5.4	-1.0	5.1	5.1	5.1	5.1	Baseline Offset (In Feet)
					-3.2	-4.4	-6.1	0.0	0.0	0.0	Incremental Change
					-3.2	-7.6	-13.7	-13.7	-13.7	-13.7	Cumulative Change
4+35	N/A	N/A	N/A	-5.6	-5.4	-0.7	4.4	4.5	4.5	4.5	Baseline Offset (In Feet)
					-0.2	-4.6	-5.1	0.0	0.0	0.0	Incremental Change
					-0.2	-4.8	-10.0	-10.0	-10.0	-10.0	Cumulative Change
4+45	N/A	N/A	N/A	N/A	N/A	-5.1	1.3	1.2	1.2	1.9	Baseline Offset (In Feet)
							-6.4	0.1	0.0	-0.7	Incremental Change
							-6.4	-6.3	-6.3	-7.0	Cumulative Change
4+50	N/A	N/A	N/A	N/A	N/A	-6.3	1.9	1.8	4.1	4.1	Baseline Offset (In Feet)
							-8.2	0.1	-2.3	0.0	Incremental Change
							-8.1	-8.1	-10.4	-10.4	Cumulative Change

*****Note:** Field Survey dated 8/7/01 was used for baseline data to compute Incremental/Cumulative Change. Negative numbers indicate erosion.

**Alpine CP 00
 HDD East Site
 Streambank Monitor**

Baseline Station	Streambank Monitor - Top of Bank Locations										Description
	See Drawing CE-CP00-134 Rev 3 for Survey Baseline Stations										
	6/19/2004	7/10/2005	Future	Future	Future	Future	Future	Future	Future	Future	Date
0+10	-25.3	-25.3									Baseline Offset (In Feet)
	0.0	0.0									Incremental Change
	0.0	0.0									Cumulative Change
0+20	-30.9	-30.9									Baseline Offset (In Feet)
	0.0	0.0									Incremental Change
	-1.2	-1.2									Cumulative Change
0+25	-38.2	-37.0									Baseline Offset (In Feet)
	0.0	-1.2									Incremental Change
	0.0	-1.2									Cumulative Change
0+30	-41.1	-36.9									Baseline Offset (In Feet)
	0.0	-4.2									Incremental Change
	0.0	-4.2									Cumulative Change
0+40	-37.7	-36.5									Baseline Offset (In Feet)
	0.0	-1.2									Incremental Change
	0.0	-1.2									Cumulative Change
0+50	-30.3	-30.3									Baseline Offset (In Feet)
	0.0	0.0									Incremental Change
	0.0	0.0									Cumulative Change
0+60	-27.5	-27.5									Baseline Offset (In Feet)
	0.0	0.0									Incremental Change
	-0.5	-0.5									Cumulative Change

**Alpine CP 00
 HDD East Site
 Streambank Monitor**

Baseline Station	Streambank Monitor - Top of Bank Locations										Description
	See Drawing CE-CP00-134 Rev 3 for Survey Baseline Stations										
	6/19/2004	7/10/2005	Future	Future	Future	Future	Future	Future	Future	Future	Date
0+65	-23.9	-23.4									Baseline Offset (In Feet)
	0.0	-0.5									Incremental Change
	-16.0	-16.4									Cumulative Change
0+70	-20.0	-16.2									Baseline Offset (In Feet)
	0.0	-3.8									Incremental Change
	-12.4	-16.2									Cumulative Change
0+75	-21.0	-18.0									Baseline Offset (In Feet)
	-0.1	-3.0									Incremental Change
	-6.1	-9.1									Cumulative Change
0+80	-22.4	-22.4									Baseline Offset (In Feet)
	0.0	0.0									Incremental Change
	-4.0	-4.0									Cumulative Change
0+90	-27.8	-27.8									Baseline Offset (In Feet)
	-1.5	0.0									Incremental Change
	-1.5	-1.5									Cumulative Change
1+00	-26.7	-26.7									Baseline Offset (In Feet)
	0.0	0.0									Incremental Change
	0.0	0.0									Cumulative Change
1+10	-23.9	-23.9									Baseline Offset (In Feet)
	0.0	0.0									Incremental Change
	-1.7	-1.7									Cumulative Change

**Alpine CP 00
 HDD East Site
 Streambank Monitor**

Baseline Station	Streambank Monitor - Top of Bank Locations										Description
	See Drawing CE-CP00-134 Rev 3 for Survey Baseline Stations										
	6/19/2004	7/10/2005	Future	Future	Future	Future	Future	Future	Future	Future	Date
1+15	-20.8	-20.2									Baseline Offset (In Feet)
	0.0	-0.7									Incremental Change
	-6.8	-7.4									Cumulative Change
1+20	-21.4	-18.2									Baseline Offset (In Feet)
	0.0	-3.2									Incremental Change
	-14.1	-17.3									Cumulative Change
1+25	-18.1	-16.4									Baseline Offset (In Feet)
	0.0	-1.7									Incremental Change
	-20.6	-22.3									Cumulative Change
1+30	-17.3	-17.0									Baseline Offset (In Feet)
	0.0	-0.3									Incremental Change
	-20.5	-20.8									Cumulative Change
1+40	-17.1	-15.8									Baseline Offset (In Feet)
	0.0	-1.3									Incremental Change
	-16.7	-18.1									Cumulative Change
1+45	-16.1	-14.3									Baseline Offset (In Feet)
	0.0	-1.8									Incremental Change
	-12.1	-13.9									Cumulative Change
1+50	-13.8	-13.4									Baseline Offset (In Feet)
	0.0	-0.4									Incremental Change
	-9.9	-10.3									Cumulative Change

**Alpine CP 00
 HDD East Site
 Streambank Monitor**

Baseline Station	Streambank Monitor - Top of Bank Locations										Description
	See Drawing CE-CP00-134 Rev 3 for Survey Baseline Stations										
	6/19/2004	7/10/2005	Future	Future	Future	Future	Future	Future	Future	Future	Date
1+55	-11.5	-7.1									Baseline Offset (In Feet)
	0.0	-4.4									Incremental Change
	-10.7	-15.1									Cumulative Change
1+60	-9.0	-4.2									Baseline Offset (In Feet)
	0.0	-4.8									Incremental Change
	-12.6	-17.4									Cumulative Change
1+65	-9.7	-6.9									Baseline Offset (In Feet)
	-1.7	-2.8									Incremental Change
	-16.6	-19.4									Cumulative Change
1+70	-13.0	-10.8									Baseline Offset (In Feet)
	-2.7	-2.2									Incremental Change
	-17.1	-19.3									Cumulative Change
1+75	-14.4	-12.0									Baseline Offset (In Feet)
	-1.7	-2.5									Incremental Change
	-16.3	-18.7									Cumulative Change
1+80	-13.9	-12.8									Baseline Offset (In Feet)
	0.0	-1.1									Incremental Change
	-16.4	-17.4									Cumulative Change
1+85	-12.7	-12.3									Baseline Offset (In Feet)
	0.0	-0.4									Incremental Change
	-11.8	-12.2									Cumulative Change

**Alpine CP 00
 HDD East Site
 Streambank Monitor**

Baseline Station	Streambank Monitor - Top of Bank Locations										Description
	See Drawing CE-CP00-134 Rev 3 for Survey Baseline Stations										
	6/19/2004	7/10/2005	Future	Future	Future	Future	Future	Future	Future	Future	Date
1+90	-16.9	-16.9									Baseline Offset (In Feet)
	0.0	0.0									Incremental Change
	4.1	4.1									Cumulative Change
1+95	-27.7	-27.7									Baseline Offset (In Feet)
	0.0	0.0									Incremental Change
	0.1	0.1									Cumulative Change
2+00	-27.8	-27.8									Baseline Offset (In Feet)
	0.0	0.0									Incremental Change
	-5.9	-5.9									Cumulative Change
2+05	-27.3	-27.3									Baseline Offset (In Feet)
	0.0	0.0									Incremental Change
	-5.6	-5.6									Cumulative Change
2+10	-26.0	-26.0									Baseline Offset (In Feet)
	0.0	0.0									Incremental Change
	-7.7	-7.7									Cumulative Change
2+15	-23.2	-23.2									Baseline Offset (In Feet)
	0.0	0.0									Incremental Change
	-11.7	-11.7									Cumulative Change
2+20	-20.4	-8.4									Baseline Offset (In Feet)
	-0.6	-12.1									Incremental Change
	-14.0	-26.1									Cumulative Change

**Alpine CP 00
 HDD East Site
 Streambank Monitor**

Baseline Station	Streambank Monitor - Top of Bank Locations										Description
	See Drawing CE-CP00-134 Rev 3 for Survey Baseline Stations										
	6/19/2004	7/10/2005	Future	Future	Future	Future	Future	Future	Future	Future	Date
2+25	-5.2	-5.2									Baseline Offset (In Feet)
	-2.9	0.0									Incremental Change
	-26.8	-26.8									Cumulative Change
2+30	2.4	2.4									Baseline Offset (In Feet)
	0.0	0.0									Incremental Change
	-25.8	-25.8									Cumulative Change
2+35	-7.1	-7.1									Baseline Offset (In Feet)
	0.1	0.0									Incremental Change
	-13.5	-13.5									Cumulative Change
2+40	-8.3	-8.3									Baseline Offset (In Feet)
	0.0	0.0									Incremental Change
	-10.8	-10.8									Cumulative Change
2+50	-14.6	-14.6									Baseline Offset (In Feet)
	0.0	0.0									Incremental Change
	-7.2	-7.2									Cumulative Change
2+60	-20.5	-19.8									Baseline Offset (In Feet)
	-0.1	-0.7									Incremental Change
	-6.0	-6.7									Cumulative Change
2+70	-20.8	-20.8									Baseline Offset (In Feet)
	0.0	0.0									Incremental Change
	-9.6	-9.6									Cumulative Change

**Alpine CP 00
 HDD East Site
 Streambank Monitor**

Baseline Station	Streambank Monitor - Top of Bank Locations										Description
	See Drawing CE-CP00-134 Rev 3 for Survey Baseline Stations										
	6/19/2004	7/10/2005	Future	Future	Future	Future	Future	Future	Future	Future	Date
2+75	-20.9	-20.8									Baseline Offset (In Feet)
	0.0	-0.1									Incremental Change
	-10.5	-10.6									Cumulative Change
2+85	-22.8	-20.4									Baseline Offset (In Feet)
	0.0	-2.4									Incremental Change
	-4.1	-6.5									Cumulative Change
2+90	-21.3	-21.3									Baseline Offset (In Feet)
	-0.1	0.0									Incremental Change
	-3.2	-3.2									Cumulative Change
3+00	-6.0	0.3									Baseline Offset (In Feet)
	0.0	-6.3									Incremental Change
	-3.1	-9.4									Cumulative Change
3+10	-11.4	-6.9									Baseline Offset (In Feet)
	0.0	-4.4									Incremental Change
	-0.1	-4.5									Cumulative Change
3+15	-15.9	-10.5									Baseline Offset (In Feet)
	0.0	-5.4									Incremental Change
	-0.3	-5.7									Cumulative Change
3+20	-11.8	-11.8									Baseline Offset (In Feet)
	0.0	0.0									Incremental Change
	-4.1	-4.1									Cumulative Change

**Alpine CP 00
 HDD East Site
 Streambank Monitor**

Baseline Station	Streambank Monitor - Top of Bank Locations										Description
	See Drawing CE-CP00-134 Rev 3 for Survey Baseline Stations										
	6/19/2004	7/10/2005	Future	Future	Future	Future	Future	Future	Future	Future	Date
3+25	-11.1	-10.3									Baseline Offset (In Feet)
	0.0	-0.8									Incremental Change
	-6.0	-6.8									Cumulative Change
3+30	-11.5	-11.2									Baseline Offset (In Feet)
	0.0	-0.3									Incremental Change
	-23.9	-24.2									Cumulative Change
3+35	-23.5	-23.5									Baseline Offset (In Feet)
	0.0	0.0									Incremental Change
	-12.2	-12.2									Cumulative Change
3+40	-25.4	-25.4									Baseline Offset (In Feet)
	0.0	0.0									Incremental Change
	-8.8	-8.8									Cumulative Change
3+45	-26.4	-24.1									Baseline Offset (In Feet)
	-1.0	-2.3									Incremental Change
	-6.0	-8.3									Cumulative Change
3+52	-8.4	-8.4									Baseline Offset (In Feet)
	0.0	0.0									Incremental Change
	-1.7	-1.7									Cumulative Change
3+60	-10.8	-10.8									Baseline Offset (In Feet)
	-0.4	0.0									Incremental Change
	-1.1	-1.1									Cumulative Change

**Alpine CP 00
 HDD East Site
 Streambank Monitor**

Baseline Station	Streambank Monitor - Top of Bank Locations										Description
	See Drawing CE-CP00-134 Rev 3 for Survey Baseline Stations										
	6/19/2004	7/10/2005	Future	Future	Future	Future	Future	Future	Future	Future	Date
3+65	-18.4	-18.4									Baseline Offset (In Feet)
	-0.3	0.0									Incremental Change
	-0.4	-0.4									Cumulative Change
3+70	-24.1	-21.2									Baseline Offset (In Feet)
	0.1	-2.9									Incremental Change
	0.2	-2.8									Cumulative Change
3+75	-20.2	-19.3									Baseline Offset (In Feet)
	0.0	-0.9									Incremental Change
	-3.0	-3.9									Cumulative Change
3+80	-11.6	-11.6									Baseline Offset (In Feet)
	-1.3	0.0									Incremental Change
	-8.0	-8.0									Cumulative Change
3+85	-12.0	-12.0									Baseline Offset (In Feet)
	-0.3	0.0									Incremental Change
	-7.9	-7.9									Cumulative Change
3+95	-21.9	-21.9									Baseline Offset (In Feet)
	-0.5	0.0									Incremental Change
	-4.2	-4.2									Cumulative Change
4+00	-21.9	-21.9									Baseline Offset (In Feet)
	0.7	0.0									Incremental Change
	-8.0	-8.0									Cumulative Change

**Alpine CP 00
 HDD East Site
 Streambank Monitor**

Baseline Station	Streambank Monitor - Top of Bank Locations										Description
	See Drawing CE-CP00-134 Rev 3 for Survey Baseline Stations										
	6/19/2004	7/10/2005	Future	Future	Future	Future	Future	Future	Future	Future	Date
4+05	-19.5	-19.5									Baseline Offset (In Feet)
	0.0	0.0									Incremental Change
	-10.3	-10.3									Cumulative Change
4+15	2.6	2.6									Baseline Offset (In Feet)
	0.0	0.0									Incremental Change
	-33.3	-33.3									Cumulative Change
4+25	5.1	5.1									Baseline Offset (In Feet)
	0.0	0.0									Incremental Change
	-13.7	-13.7									Cumulative Change
4+35	4.5	4.5									Baseline Offset (In Feet)
	0.0	0.0									Incremental Change
	-10.0	-10.0									Cumulative Change
4+45	1.9	1.9									Baseline Offset (In Feet)
	-0.7	0.0									Incremental Change
	-7.0	-7.0									Cumulative Change
4+50	4.1	4.1									Baseline Offset (In Feet)
	0.0	0.0									Incremental Change
	-10.4	-10.4									Cumulative Change

*****Note:** Field Survey dated 8/7/01 was used for baseline data to compute Incremental/Cumulative Change. Negative numbers indicate erosion.

**Alpine CP 00
 HDD East Site
 Subsidence Monitor - Seawater Line**

Baseline Station	Point Description	Subsidence Monitor - Cross-Section A								Description
		See Drawing CE-CP00-134 for Survey Cross-Section Locations								
		8/15/2001	8/23/2001	9/8/2001	7/9/2002	9/14/2002	7/9/2003	9/8/2003	7/9/2004	Date
0+00	Tundra	17.9	18.0	18.0	17.8	17.8	17.8	17.8	17.7	Elevation (In Feet)
			0.1	0.0	-0.2	0.0	0.0	0.0	-0.1	Incremental Change
			0.1	0.1	-0.1	-0.1	-0.1	-0.1	-0.2	Cumulative Change
0+09	Tundra		17.9	18.0	17.8	17.8	17.8	17.8	17.7	Elevation (In Feet)
				0.1	-0.2	0.0	0.0	0.0	-0.1	Incremental Change
				0.1	-0.1	-0.1	-0.1	-0.1	-0.2	Cumulative Change
0+18	Tundra	17.6	17.6	17.5	17.3	17.5	17.4	17.4	17.2	Elevation (In Feet)
			0.0	-0.1	-0.2	0.2	-0.1	0.0	-0.2	Incremental Change
			0.0	-0.1	-0.3	-0.1	-0.2	-0.2	-0.4	Cumulative Change
0+21	Top Bank	16.8	16.7	16.7	16.6	16.5	16.8	16.8	16.4	Elevation (In Feet)
			-0.1	0.0	-0.1	-0.1	0.3	0.0	-0.4	Incremental Change
			-0.1	-0.1	-0.2	-0.3	0.0	0.0	-0.4	Cumulative Change
0+22.5	Gradebreak		15.4	15.4	14.9	14.8	14.8	14.8	14.8	Elevation (In Feet)
				0.0	-0.5	-0.1	0.0	0.0	0.0	Incremental Change
				0.0	-0.5	-0.6	-0.6	-0.6	-0.6	Cumulative Change
0+25	Toe Bank	13.6	14.1	13.9	13.6	13.6	13.7	13.7	13.0	Elevation (In Feet)
			0.5	-0.2	-0.3	0.0	0.1	0.0	-0.7	Incremental Change
			0.5	0.3	0.0	0.0	0.1	0.1	-0.6	Cumulative Change
0+27	CL Swale		13.3	13.5	13.3	12.5	13.1	13.1	11.7	Elevation (In Feet)
				0.2	-0.2	-0.8	0.6	0.0	-1.4	Incremental Change
				0.2	0.0	-0.8	-0.2	-0.2	-1.6	Cumulative Change
0+29	Toe Bank	13.3	13.6	13.5	13.5	14.2	14.5	14.5	13.9	Elevation (In Feet)
			0.3	-0.1	0.0	0.7	0.3	0.0	-0.6	Incremental Change
			0.3	0.2	0.2	0.9	1.2	1.2	0.6	Cumulative Change

**Alpine CP 00
 HDD East Site
 Subsidence Monitor - Seawater Line**

Baseline Station	Point Description	Subsidence Monitor - Cross-Section A								Description
		See Drawing CE-CP00-134 for Survey Cross-Section Locations								
		8/15/2001	8/23/2001	9/8/2001	7/9/2002	9/14/2002	7/9/2003	9/8/2003	7/9/2004	Date
0+34	Gradebreak		15.6	15.6	15.2	15.2	15.5	15.5	14.8	Elevation (In Feet)
				0.0	-0.4	0.0	0.3	0.0	-0.7	Incremental Change
				0.0	-0.4	-0.4	-0.1	-0.1	-0.8	Cumulative Change
0+35	Top Bank	17.6	17.6	17.6	17.4	17.4	17.4	17.4	17.6	Elevation (In Feet)
			0.0	0.0	-0.2	0.0	0.0	0.0	0.2	Incremental Change
			0.0	0.0	-0.2	-0.2	-0.2	-0.2	0.0	Cumulative Change
0+42	Tundra		18.3	18.4	18.1	18.1	18.1	18.1	18.0	Elevation (In Feet)
				0.1	-0.3	0.0	0.0	0.0	-0.1	Incremental Change
				0.1	-0.2	-0.2	-0.2	-0.2	-0.3	Cumulative Change
0+50	Tundra	18.0	18.0	18.1	17.9	17.8	17.8	17.8	17.7	Elevation (In Feet)
			0.0	0.1	-0.2	-0.1	0.0	0.0	-0.1	Incremental Change
			0.0	0.1	-0.1	-0.2	-0.2	-0.2	-0.3	Cumulative Change
***Note: Baseline Stationing Runs from North to South along Cross-Sections.										

**Alpine CP 00
 HDD East Site
 Subsidence Monitor - Seawater Line**

Baseline Station	Point Description	Subsidence Monitor - Cross-Section A								Description
		See Drawing CE-CP00-134 for Survey Cross-Section Locations								
		7/9/2004	7/28/2005	Future	Future	Future	Future	Future	Future	Date
0+00	Tundra	17.7	17.9							Elevation (In Feet)
		-0.1	0.2							Incremental Change
		-0.2	0.0							Cumulative Change
0+09	Tundra	17.7	17.8							Elevation (In Feet)
		-0.1	0.1							Incremental Change
		-0.2	-0.1							Cumulative Change
0+18	Tundra	17.2	17.4							Elevation (In Feet)
		-0.2	0.2							Incremental Change
		-0.4	-0.2							Cumulative Change
0+21	Top Bank	16.4	16.6							Elevation (In Feet)
		-0.4	0.2							Incremental Change
		-0.4	-0.2							Cumulative Change
0+22.5	Gradebreak	14.8	14.6							Elevation (In Feet)
		0.0	-0.2							Incremental Change
		-0.6	-0.8							Cumulative Change
0+25	Toe Bank	13.0	13.3							Elevation (In Feet)
		-0.7	0.3							Incremental Change
		-0.6	-0.3							Cumulative Change
0+27	CL Swale	11.7	12.2							Elevation (In Feet)
		-1.4	0.5							Incremental Change
		-1.6	-1.1							Cumulative Change
0+29	Toe Bank	13.9	14.1							Elevation (In Feet)
		-0.6	0.2							Incremental Change
		0.6	0.8							Cumulative Change

**Alpine CP 00
 HDD East Site
 Subsidence Monitor - Seawater Line**

Baseline Station	Point Description	Subsidence Monitor - Cross-Section A								Description
		See Drawing CE-CP00-134 for Survey Cross-Section Locations								
		7/9/2004	7/28/2005	Future	Future	Future	Future	Future	Future	Date
0+34	Gradebreak	14.8	15.3							Elevation (In Feet)
		-0.7	0.5							Incremental Change
		-0.8	-0.3							Cumulative Change
0+35	Top Bank	17.6	17.2							Elevation (In Feet)
		0.2	-0.4							Incremental Change
		0.0	-0.4							Cumulative Change
0+42	Tundra	18.0	18.1							Elevation (In Feet)
		-0.1	0.1							Incremental Change
		-0.3	-0.2							Cumulative Change
0+50	Tundra	17.7	17.8							Elevation (In Feet)
		-0.1	0.1							Incremental Change
		-0.3	-0.2							Cumulative Change
***Note: Baseline Stationing Runs from North to South along Cross-Sections.										

Alpine CP 00
HDD East Site
Subsidence Monitor - Seawater Line

Baseline Station	Point Description	Subsidence Monitor - Cross-Section B								Description
		See Drawing CE-CP00-134 for Survey Cross-Section Locations								
		8/15/2001	8/23/2001	9/8/2001	7/9/2002	9/14/2002	7/9/2003	9/8/2003	7/9/2004	Date
0+00	Tundra	17.5	17.6	17.6	17.2	17.2	17.4	17.4	17.5	Elevation (In Feet)
			0.1	0.0	-0.4	0.0	0.2	0.0	0.1	Incremental Change
			0.1	0.1	-0.3	-0.3	-0.1	-0.1	0.0	Cumulative Change
0+10	Tundra		17.9	18.0	17.9	17.7	17.7	17.7	17.7	Elevation (In Feet)
				0.1	-0.1	-0.2	0.0	0.0	0.0	Incremental Change
				0.1	0.0	-0.2	-0.2	-0.2	-0.2	Cumulative Change
0+23	Tundra	17.5	17.6	17.6	17.3	17.3	17.4	17.4	17.3	Elevation (In Feet)
			0.1	0.0	-0.3	0.0	0.1	0.0	-0.1	Incremental Change
			0.1	0.1	-0.2	-0.2	-0.1	-0.1	-0.2	Cumulative Change
0+25	Top of Bank	17.2	17.0	17.2	17.0	16.0	16.0	16.0	15.9	Elevation (In Feet)
			-0.2	0.2	-0.2	-1.0	0.0	0.0	-0.1	Incremental Change
			-0.2	0.0	-0.2	-1.2	-1.2	-1.2	-1.3	Cumulative Change
0+27	Gradebreak		16.7	16.6	16.5	16.5	16.5	16.5	16.4	Elevation (In Feet)
				-0.1	-0.1	0.0	0.0	0.0	-0.1	Incremental Change
				-0.1	-0.2	-0.2	-0.2	-0.2	-0.3	Cumulative Change
0+32	Toe Bank	14.2	14.5	14.4	14.6	14.1	14.5	14.5	14.5	Elevation (In Feet)
			0.3	-0.1	0.2	-0.5	0.4	0.0	0.0	Incremental Change
			0.3	0.2	0.4	-0.1	0.3	0.3	0.3	Cumulative Change
0+35	CL Swale		14.4	14.3	14.2	13.7	14.2	14.2	14.2	Elevation (In Feet)
				-0.1	-0.1	-0.5	0.5	0.0	0.0	Incremental Change
				-0.1	-0.2	-0.7	-0.2	-0.2	-0.2	Cumulative Change
0+37	Toe Bank	13.9	13.8	14.2	13.7	13.5	14.4	14.4	13.7	Elevation (In Feet)
			-0.1	0.4	-0.5	-0.2	0.9	0.0	-0.7	Incremental Change
			-0.1	0.3	-0.2	-0.4	0.5	0.5	-0.2	Cumulative Change

**Alpine CP 00
 HDD East Site
 Subsidence Monitor - Seawater Line**

Baseline Station	Point Description	Subsidence Monitor - Cross-Section B								Description
		See Drawing CE-CP00-134 for Survey Cross-Section Locations								
		8/15/2001	8/23/2001	9/8/2001	7/9/2002	9/14/2002	7/9/2003	9/8/2003	7/9/2004	Date
0+38	Gradebreak		15.2		15.0	14.9	14.9	14.9	14.9	Elevation (In Feet)
					-0.2	-0.1	0.0	0.0	0.0	Incremental Change
					-0.2	-0.3	-0.3	-0.3	-0.3	Cumulative Change
0+40	Gradebreak		14.5		14.2	14.0	15.4	15.4	15.4	Elevation (In Feet)
					-0.3	-0.2	1.4	0.0	0.0	Incremental Change
					-0.3	-0.5	0.9	0.9	0.9	Cumulative Change
0+42	Gradebreak		15.8	16.1	15.6	15.6	15.8	15.8	15.8	Elevation (In Feet)
				0.3	-0.5	0.0	0.2	0.0	0.0	Incremental Change
				0.3	-0.2	-0.2	0.0	0.0	0.0	Cumulative Change
0+49	Gradebreak	16.2	16.2	16.2	16.2	16.0	16.0	16.0	16.0	Elevation (In Feet)
			0.0	0.0	0.0	-0.2	0.0	0.0	0.0	Incremental Change
			0.0	0.0	0.0	-0.2	-0.2	-0.2	-0.2	Cumulative Change
0+52	Top Bank	17.3	17.7	17.6	17.8	17.6	17.7	17.7	17.6	Elevation (In Feet)
			0.4	-0.1	0.2	-0.2	0.1	0.0	-0.1	Incremental Change
			0.4	0.3	0.5	0.3	0.4	0.4	0.3	Cumulative Change
0+60	Tundra	17.8	17.8	17.8	17.6	17.7	17.7	17.7	17.6	Elevation (In Feet)
			0.0	0.0	-0.2	0.1	0.0	0.0	-0.1	Incremental Change
			0.0	0.0	-0.2	-0.1	-0.1	-0.1	-0.2	Cumulative Change

*****Note: Baseline Stationing Runs from North to South along Cross-Sections.**

**Alpine CP 00
 HDD East Site
 Subsidence Monitor - Seawater Line**

Baseline Station	Point Description	Subsidence Monitor - Cross-Section B							Description	
		See Drawing CE-CP00-134 for Survey Cross-Section Locations								
		7/9/2004	7/28/2005	Future	Future	Future	Future	Future	Future	Date
0+00	Tundra	17.5	17.4							Elevation (In Feet)
		0.1	-0.1							Incremental Change
		0.0	-0.1							Cumulative Change
0+10	Tundra	17.7	17.7							Elevation (In Feet)
		0.0	0.0							Incremental Change
		-0.2	-0.2							Cumulative Change
0+23	Tundra	17.3	17.4							Elevation (In Feet)
		-0.1	0.1							Incremental Change
		-0.2	-0.1							Cumulative Change
0+25	Top of Bank	15.9	16.0							Elevation (In Feet)
		-0.1	0.1							Incremental Change
		-1.3	-1.2							Cumulative Change
0+27	Gradebreak	16.4	16.4							Elevation (In Feet)
		-0.1	0.0							Incremental Change
		-0.3	-0.3							Cumulative Change
0+32	Toe Bank	14.5	14.7							Elevation (In Feet)
		0.0	0.2							Incremental Change
		0.3	0.5							Cumulative Change
0+35	CL Swale	14.2	14.6							Elevation (In Feet)
		0.0	0.4							Incremental Change
		-0.2	0.2							Cumulative Change
0+37	Toe Bank	13.7	14.4							Elevation (In Feet)
		-0.7	0.7							Incremental Change
		-0.2	0.5							Cumulative Change

**Alpine CP 00
 HDD East Site
 Subsidence Monitor - Seawater Line**

Baseline Station	Point Description	Subsidence Monitor - Cross-Section B						Date	Description
		7/9/2004	7/28/2005	Future	Future	Future	Future		
		See Drawing CE-CP00-134 for Survey Cross-Section Locations							
0+38	Gradebreak	14.9	15.0					Elevation (In Feet)	
		0.0	0.1					Incremental Change	
		-0.3	-0.2					Cumulative Change	
0+40	Gradebreak	15.4	15.5					Elevation (In Feet)	
		0.0	0.1					Incremental Change	
		0.9	1.0					Cumulative Change	
0+42	Gradebreak	15.8	15.9					Elevation (In Feet)	
		0.0	0.1					Incremental Change	
		0.0	0.1					Cumulative Change	
0+49	Gradebreak	16.0	16.2					Elevation (In Feet)	
		0.0	0.2					Incremental Change	
		-0.2	0.0					Cumulative Change	
0+52	Top Bank	17.6	17.7					Elevation (In Feet)	
		-0.1	0.1					Incremental Change	
		0.3	0.4					Cumulative Change	
0+60	Tundra	17.6	17.8					Elevation (In Feet)	
		-0.1	0.2					Incremental Change	
		-0.2	0.0					Cumulative Change	
***Note: Baseline Stationing Runs from North to South along Cross-Sections.									

**Alpine CP 00
 HDD East Site
 Subsidence Monitor - Seawater Line**

Baseline Station	Point Description	Subsidence Monitor - Cross-Section C								Description
		See Drawing CE-CP00-134 for Survey Cross-Section Locations								
		8/15/2001	8/23/2001	9/8/2001	7/9/2002	9/14/2002	7/9/2003	9/8/2003	7/9/2004	Date
0+00	Tundra	16.9	16.9	16.9	16.9	16.8	16.8	16.8	16.7	Elevation (In Feet)
			0.0	0.0	0.0	-0.1	0.0	0.0	-0.1	Incremental Change
			0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.2	Cumulative Change
0+13	Tundra		16.8	16.7	16.7	16.6	16.7	16.7	16.6	Elevation (In Feet)
				-0.1	0.0	-0.1	0.1	0.0	-0.1	Incremental Change
				-0.1	-0.1	-0.2	-0.1	-0.1	-0.2	Cumulative Change
0+27	Top Bank	17.0	17.0	16.8	16.8	16.8	16.8	16.8	16.8	Elevation (In Feet)
			0.0	-0.2	0.0	0.0	0.0	0.0	0.0	Incremental Change
			0.0	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	Cumulative Change
0+29	Toe Bank	12.8	12.8	12.9	12.5	12.4	13.2	13.2	13.5	Elevation (In Feet)
			0.0	0.1	-0.4	-0.1	0.8	0.0	0.3	Incremental Change
			0.0	0.1	-0.3	-0.4	0.4	0.4	0.7	Cumulative Change
0+31	Toe Bank	13.9	13.6	13.9	13.6	13.4	13.6	13.6	13.5	Elevation (In Feet)
			-0.3	0.3	-0.3	-0.2	0.2	0.0	-0.1	Incremental Change
			-0.3	0.0	-0.3	-0.5	-0.3	-0.3	-0.4	Cumulative Change
0+32	Gradebreak	16.7	N/A	16.7	16.6	N/A	16.7	16.7	16.6	Elevation (In Feet)
				0.0	-0.1		0.1	0.0	-0.1	Incremental Change
				0.0	-0.1		0.0	0.0	-0.1	Cumulative Change
0+33	Top Bank	17.3	17.5	17.5	17.1	17.2	17.2	17.2	17.1	Elevation (In Feet)
			0.2	0.0	-0.4	0.1	0.0	0.0	-0.1	Incremental Change
			0.2	0.2	-0.2	-0.1	-0.1	-0.1	-0.2	Cumulative Change
0+42	Tundra		17.0	17.1	17.0	16.9	16.9	16.9	17.0	Elevation (In Feet)
				0.1	-0.1	-0.1	0.0	0.0	0.1	Incremental Change
				0.1	0.0	-0.1	-0.1	-0.1	0.0	Cumulative Change

Alpine CP 00
HDD East Site
Subsidence Monitor - Seawater Line

Baseline Station	Point Description	Subsidence Monitor - Cross-Section C								Description
		See Drawing CE-CP00-134 for Survey Cross-Section Locations								
		8/15/2001	8/23/2001	9/8/2001	7/9/2002	9/14/2002	7/9/2003	9/8/2003	7/9/2004	Date
0+50	Tundra	17.2	17.1	17.2	17.1	17.0	17.2	17.2	17.1	Elevation (In Feet)
			-0.1	0.1	-0.1	-0.1	0.2	0.0	-0.1	Incremental Change
			-0.1	0.0	-0.1	-0.2	0.0	0.0	-0.1	Cumulative Change
0+60	Tundra	N/A	N/A	N/A	17.8	N/A	N/A	N/A	N/A	Elevation (In Feet)
										Incremental Change
										Cumulative Change
***Note: Baseline Stationing Runs from North to South along Cross-Sections.										

**Alpine CP 00
 HDD East Site
 Subsidence Monitor - Seawater Line**

Baseline Station	Point Description	Subsidence Monitor - Cross-Section C								Description
		See Drawing CE-CP00-134 for Survey Cross-Section Locations								
		7/9/2004	7/28/2005	Future	Future	Future	Future	Future	Future	Date
0+00	Tundra	16.7	16.7							Elevation (In Feet)
		-0.1	0.0							Incremental Change
		-0.2	-0.2							Cumulative Change
0+13	Tundra	16.6	16.7							Elevation (In Feet)
		-0.1	0.1							Incremental Change
		-0.2	-0.1							Cumulative Change
0+27	Top Bank	16.8	16.8							Elevation (In Feet)
		0.0	0.0							Incremental Change
		-0.2	-0.2							Cumulative Change
0+29	Toe Bank	13.5	13.7							Elevation (In Feet)
		0.3	0.2							Incremental Change
		0.7	0.9							Cumulative Change
0+31	Toe Bank	13.5	13.6							Elevation (In Feet)
		-0.1	0.1							Incremental Change
		-0.4	-0.3							Cumulative Change
0+32	Gradebreak	16.6	16.7							Elevation (In Feet)
		-0.1	0.1							Incremental Change
		-0.1	0.0							Cumulative Change
0+33	Top Bank	17.1	17.1							Elevation (In Feet)
		-0.1	0.0							Incremental Change
		-0.2	-0.2							Cumulative Change
0+42	Tundra	17.0	17.0							Elevation (In Feet)
		0.1	0.0							Incremental Change
		0.0	0.0							Cumulative Change

**Alpine CP 00
 HDD East Site
 Subsidence Monitor - Seawater Line**

Baseline Station	Point Description	Subsidence Monitor - Cross-Section C								Description
		See Drawing CE-CP00-134 for Survey Cross-Section Locations								
		7/9/2004	7/28/2005	Future	Future	Future	Future	Future	Future	Date
0+50	Tundra	17.1	17.2							Elevation (In Feet)
		-0.1	0.1							Incremental Change
		-0.1	0.0							Cumulative Change
0+60	Tundra	N/A	N/A							Elevation (In Feet)
										Incremental Change
										Cumulative Change
***Note: Baseline Stationing Runs from North to South along Cross-Sections.										

**Alpine CP 00
 HDD East Site
 Subsidence Monitor - Seawater Line**

Baseline Station	Point Description	Subsidence Monitor - Cross-Section D								Description
		See Drawing CE-CP00-134 for Survey Cross-Section Locations								
		8/15/2001	8/23/2001	9/8/2001	7/9/2002	9/14/2002	7/9/2003	9/8/2003	7/9/2004	Date
0+00	Tundra	17.6	17.6	17.6	17.6	17.3	17.5	17.5	17.5	Elevation (In Feet)
			0.0	0.0	0.0	-0.3	0.2	0.0	0.0	Incremental Change
			0.0	0.0	0.0	-0.3	-0.1	-0.1	-0.1	Cumulative Change
0+10	Tundra		17.7	17.9	17.9	17.6	17.6	17.6	17.6	Elevation (In Feet)
				0.2	0.0	-0.3	0.0	0.0	0.0	Incremental Change
				0.2	0.2	-0.1	-0.1	-0.1	-0.1	Cumulative Change
0+20	Gradebreak		17.4	17.6	17.5	16.6	NA	NA	NA	Elevation (In Feet)
				0.2	-0.1	-0.9				Incremental Change
				0.2	0.1	-0.8				Cumulative Change
0+22	Top Bank		16.8	16.7	16.8	16.6	16.8	16.8	16.8	Elevation (In Feet)
				-0.1	0.1	-0.2	0.2	0.0	0.0	Incremental Change
				-0.1	0.0	-0.2	0.0	0.0	0.0	Cumulative Change
0+24	Toe Bank	14.7	14.6	14.7	14.8	14.3	14.8	14.8	14.8	Elevation (In Feet)
			-0.1	0.1	0.1	-0.5	0.5	0.0	0.0	Incremental Change
			-0.1	0.0	0.1	-0.4	0.1	0.1	0.1	Cumulative Change
0+25	CL Swale		14.1	14.2	14.1	13.7	14.1	14.1	14.1	Elevation (In Feet)
				0.1	-0.1	-0.4	0.4	0.0	0.0	Incremental Change
				0.1	0.0	-0.4	0.0	0.0	0.0	Cumulative Change
0+27	Toe Bank	14.4	14.6	14.6	14.3	14.0	14.2	14.2	14.2	Elevation (In Feet)
			0.2	0.0	-0.3	-0.3	0.2	0.0	0.0	Incremental Change
			0.2	0.2	-0.1	-0.4	-0.2	-0.2	-0.2	Cumulative Change
0+29	Top Bank	17.3	17.3	17.4	17.1	16.9	17.1	17.1	17.0	Elevation (In Feet)
				0.1	-0.3	-0.2	0.2	0.0	-0.1	Incremental Change
				0.1	-0.2	-0.4	-0.2	-0.2	-0.3	Cumulative Change

**Alpine CP 00
 HDD East Site
 Subsidence Monitor - Seawater Line**

Baseline Station	Point Description	Subsidence Monitor - Cross-Section D								Description
		See Drawing CE-CP00-134 for Survey Cross-Section Locations								
		8/15/2001	8/23/2001	9/8/2001	7/9/2002	9/14/2002	7/9/2003	9/8/2003	7/9/2004	Date
0+38	Tundra		17.6	17.7	17.5	17.3	17.3	17.3	17.2	Elevation (In Feet)
				0.1	-0.2	-0.2	0.0	0.0	-0.1	Incremental Change
				0.1	-0.1	-0.3	-0.3	-0.3	-0.4	Cumulative Change
0+50	Tundra	17.7	17.6	17.6	17.5	17.3	16.8	16.8	17.4	Elevation (In Feet)
			-0.1	0.0	-0.1	-0.2	-0.5	0.0	0.6	Incremental Change
			-0.1	-0.1	-0.2	-0.4	-0.9	-0.9	-0.3	Cumulative Change
***Note: Baseline Stationing Runs from North to South along Cross-Sections.										

Alpine CP 00
HDD East Site
Subsidence Monitor - Seawater Line

Baseline Station	Point Description	Subsidence Monitor - Cross-Section D								Description
		See Drawing CE-CP00-134 for Survey Cross-Section Locations								
		7/9/2004	7/28/2005	Future	Future	Future	Future	Future	Future	Date
0+00	Tundra	17.5	17.4							Elevation (In Feet)
		0.0	-0.1							Incremental Change
		-0.1	-0.2							Cumulative Change
0+10	Tundra	17.6	17.6							Elevation (In Feet)
		0.0	0.0							Incremental Change
		-0.1	-0.3							Cumulative Change
0+20	Gradebreak	N/A	17.2							Elevation (In Feet)
		N/A	0.6							Incremental Change
		-0.8	-0.2							Cumulative Change
0+22	Top Bank	16.8	16.5							Elevation (In Feet)
		0.0	-0.3							Incremental Change
		0.0	-0.2							Cumulative Change
0+24	Toe Bank	14.8	13.9							Elevation (In Feet)
		0.0	-0.9							Incremental Change
		0.1	-0.7							Cumulative Change
0+25	CL Swale	14.1	13.7							Elevation (In Feet)
		0.0	-0.4							Incremental Change
		0.0	-0.5							Cumulative Change
0+27	Toe Bank	14.2	16.2							Elevation (In Feet)
		0.0	2.0							Incremental Change
		-0.2	1.6							Cumulative Change
0+29	Top Bank	17.0	17.0							Elevation (In Feet)
		-0.1	0.0							Incremental Change
		-0.3	-0.3							Cumulative Change

**Alpine CP 00
 HDD East Site
 Subsidence Monitor - Seawater Line**

Baseline Station	Point Description	Subsidence Monitor - Cross-Section D								Description
		See Drawing CE-CP00-134 for Survey Cross-Section Locations								
		7/9/2004	7/28/2005	Future	Future	Future	Future	Future	Future	Date
0+38	Tundra	17.2	17.2							Elevation (In Feet)
		-0.1	0.0							Incremental Change
		-0.4	-0.5							Cumulative Change
0+50	Tundra	17.4	17.4							Elevation (In Feet)
		0.6	0.0							Incremental Change
		-0.3	-0.2							Cumulative Change
***Note: Baseline Stationing Runs from North to South along Cross-Sections.										

**Alpine CP 00
 HDD East Site
 Subsidence Monitor - Seawater Line**

Baseline Station	Point Description	Subsidence Monitor - Cross-Section E								Description
		See Drawing CE-CP00-134 for Survey Cross-Section Locations								
		9/8/2003	7/9/2004	7/28/2005	Future	Future	Future	Future	Future	Date
0+00	Tundra	17.5	17.5	17.4						Elevation (In Feet)
			0.0	-0.1						Incremental Change
			0.0	-0.1						Cumulative Change
0+9	Tundra	17.3	17.3	17.3						Elevation (In Feet)
			0.0	0.0						Incremental Change
			0.0	0.0						Cumulative Change
0+12	Gradebreak	17.8	17.8	17.4						Elevation (In Feet)
			0.0	-0.4						Incremental Change
			0.0	-0.4						Cumulative Change
0+20	Top Bank	17.3	17.3	17.3						Elevation (In Feet)
			0.0	0.0						Incremental Change
			0.0	0.0						Cumulative Change
0+21	Toe Bank	16.5	16.5	16.5						Elevation (In Feet)
			0.0	0.0						Incremental Change
			0.0	0.0						Cumulative Change
0+23	CL Swale	16.0	16.0	16.0						Elevation (In Feet)
			0.0	0.0						Incremental Change
			0.0	0.0						Cumulative Change
0+24	Toe Bank	16.2	16.4	16.3						Elevation (In Feet)
			0.2	-0.1						Incremental Change
			0.2	0.1						Cumulative Change
0+27	Top Bank	17.3	17.4	17.4						Elevation (In Feet)
			0.1	0.0						Incremental Change
			0.1	0.1						Cumulative Change

**Alpine CP 00
 HDD East Site
 Subsidence Monitor - Seawater Line**

Baseline Station	Point Description	Subsidence Monitor - Cross-Section E								Description
		See Drawing CE-CP00-134 for Survey Cross-Section Locations								
		9/8/2003	7/9/2004	7/28/2005	Future	Future	Future	Future	Future	Date
0+38	Tundra	17.4	17.4	17.5						Elevation (In Feet)
			0.0	0.1						Incremental Change
			0.0	0.1						Cumulative Change
0+49	Tundra	17.4	17.4	17.4						Elevation (In Feet)
			0.0	0.0						Incremental Change
			0.0	0.0						Cumulative Change
***Note: Baseline Stationing Runs from North to South along Cross-Sections.										

**Alpine CP 00
 HDD East Site
 Subsidence Monitor - Seawater Line**

Baseline Station	Point Description	Subsidence Monitor - Cross-Section F								Description
		See Drawing CE-CP00-134 for Survey Cross-Section Locations								
		9/8/2003	7/9/2004	7/28/2005	Future	Future	Future	Future	Future	Date
0+00	Tundra	17.9	17.9	18.2						Elevation (In Feet)
			0.0	0.3						Incremental Change
			0.0	0.3						Cumulative Change
0+10	Tundra	17.3	17.2	17.2						Elevation (In Feet)
			-0.1	0.0						Incremental Change
			-0.1	-0.1						Cumulative Change
0+14	Gradebreak	18.0	18.0	18.0						Elevation (In Feet)
			0.0	0.0						Incremental Change
			0.0	0.0						Cumulative Change
0+20	Top Bank	17.5	17.5	17.6						Elevation (In Feet)
			0.0	0.1						Incremental Change
			0.0	0.1						Cumulative Change
0+21	Toe Bank	16.5	16.3	16.3						Elevation (In Feet)
			-0.2	0.0						Incremental Change
			-0.2	-0.2						Cumulative Change
0+24	CL Swale	15.0	12.5	15.0						Elevation (In Feet)
			-2.5	2.5						Incremental Change
			-2.5	0.0						Cumulative Change
0+26	Toe Bank	16.1	12.5	13.1						Elevation (In Feet)
			-3.6	0.6						Incremental Change
			-3.6	-3.0						Cumulative Change
0+28	Top Bank	17.8	17.9	17.9						Elevation (In Feet)
			0.1	0.0						Incremental Change
			0.1	0.1						Cumulative Change

**Alpine CP 00
 HDD East Site
 Subsidence Monitor - Seawater Line**

Baseline Station	Point Description	Subsidence Monitor - Cross-Section F								Description
		See Drawing CE-CP00-134 for Survey Cross-Section Locations								
		9/8/2003	7/9/2004	7/28/2005	Future	Future	Future	Future	Future	Date
0+34	Gradebreak	17.9	17.9	18.0						Elevation (In Feet)
			0.0	0.1						Incremental Change
			0.0	0.1						Cumulative Change
0+43	Gradebreak	17.2	17.3	17.2						Elevation (In Feet)
			0.1	-0.1						Incremental Change
			0.1	0.0						Cumulative Change
0+46	Gradebreak	17.8	17.8	17.8						Elevation (In Feet)
			0.0	0.0						Incremental Change
			0.0	0.0						Cumulative Change
0+52	Tundra	17.8	17.9	17.9						Elevation (In Feet)
			0.1	0.0						Incremental Change
			0.1	0.1						Cumulative Change
***Note: Baseline Stationing Runs from North to South along Cross-Sections.										

**Alpine CP 00
 HDD East Site
 Subsidence Monitor - Seawater Line**

Baseline Station	Point Description	Subsidence Monitor - Cross-Section G								Description
		See Drawing CE-CP00-134 for Survey Cross-Section Locations								
		9/8/2003	7/9/2004	7/28/2005	Future	Future	Future	Future	Future	Date
0+00	Tundra	17.1	17.3	17.4						Elevation (In Feet)
			0.2	0.1						Incremental Change
			0.2	0.3						Cumulative Change
0+09	Tundra	17.2	17.1	17.2						Elevation (In Feet)
			-0.1	0.1						Incremental Change
			-0.1	0.0						Cumulative Change
0+16	Gradebreak	17.9	17.9	17.9						Elevation (In Feet)
			0.0	0.0						Incremental Change
			0.0	0.0						Cumulative Change
0+22	Top Bank	17.6	17.7	17.7						Elevation (In Feet)
			0.1	0.0						Incremental Change
			0.1	0.1						Cumulative Change
0+24	Toe Bank	16.9	17.0	17.0						Elevation (In Feet)
			0.1	0.0						Incremental Change
			0.1	0.1						Cumulative Change
0+26	CL Swale	16.5	16.5	16.5						Elevation (In Feet)
			0.0	0.0						Incremental Change
			0.0	0.0						Cumulative Change
0+28	Toe Bank	16.8	16.7	16.9						Elevation (In Feet)
			-0.1	0.2						Incremental Change
			-0.1	0.1						Cumulative Change
0+30	Top Bank	17.7	17.8	17.8						Elevation (In Feet)
			0.1	0.0						Incremental Change
			0.1	0.1						Cumulative Change

**Alpine CP 00
 HDD East Site
 Subsidence Monitor - Seawater Line**

Baseline Station	Point Description	Subsidence Monitor - Cross-Section G								Description
		See Drawing CE-CP00-134 for Survey Cross-Section Locations								
		9/8/2003	7/9/2004	7/28/2005	Future	Future	Future	Future	Future	Date
0+37	Tundra	17.6	17.6	17.6						Elevation (In Feet)
			0.0	0.0						Incremental Change
			0.0	0.0						Cumulative Change
0+46	Tundra	17.3	17.3	17.3						Elevation (In Feet)
			0.0	0.0						Incremental Change
			0.0	0.0						Cumulative Change
***Note: Baseline Stationing Runs from North to South along Cross-Sections.										

**Alpine CP 00
 HDD East Site
 Subsidence Monitor - Seawater Line**

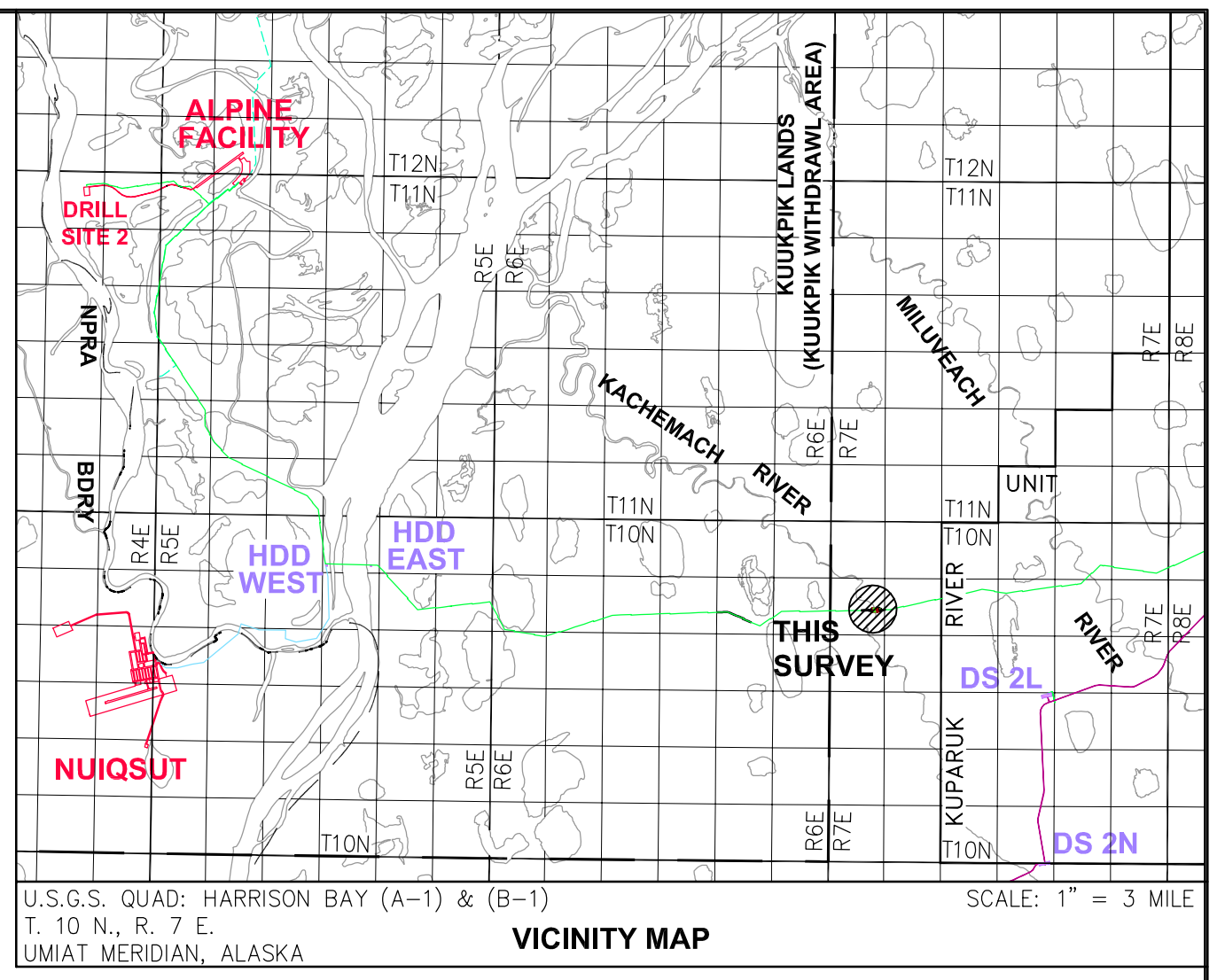
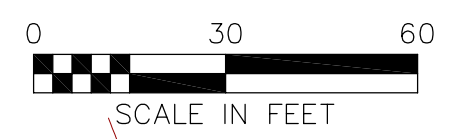
Baseline Station	Point Description	Subsidence Monitor - Cross-Section H								Description
		See Drawing CE-CP00-134 for Survey Cross-Section Locations								
		9/8/2003	7/9/2004	7/28/2005	Future	Future	Future	Future	Future	Date
0+00	Tundra	17.0	16.8	16.6						Elevation (In Feet)
			-0.2	-0.2						Incremental Change
			-0.2	-0.4						Cumulative Change
0+09	Tundra	17.1	16.9	16.9						Elevation (In Feet)
			-0.2	0.0						Incremental Change
			-0.2	-0.2						Cumulative Change
0+18	Gradebreak	17.8	17.8	17.8						Elevation (In Feet)
			0.0	0.0						Incremental Change
			0.0	0.0						Cumulative Change
0+24	Top Bank	17.3	17.4	17.4						Elevation (In Feet)
			0.1	0.0						Incremental Change
			0.1	0.1						Cumulative Change
0+25	Toe Bank	16.8	16.4	16.6						Elevation (In Feet)
			-0.4	0.2						Incremental Change
			-0.4	-0.2						Cumulative Change
0+28	CL Swale	16.3	16.3	16.3						Elevation (In Feet)
			0.0	0.0						Incremental Change
			0.0	0.0						Cumulative Change
0+30	Toe Bank	16.6	16.6	16.4						Elevation (In Feet)
			0.0	-0.2						Incremental Change
			0.0	-0.2						Cumulative Change
0+32	Top Bank	17.6	17.7	17.6						Elevation (In Feet)
			0.1	-0.1						Incremental Change
			0.1	0.0						Cumulative Change

**Alpine CP 00
 HDD East Site
 Subsidence Monitor - Seawater Line**

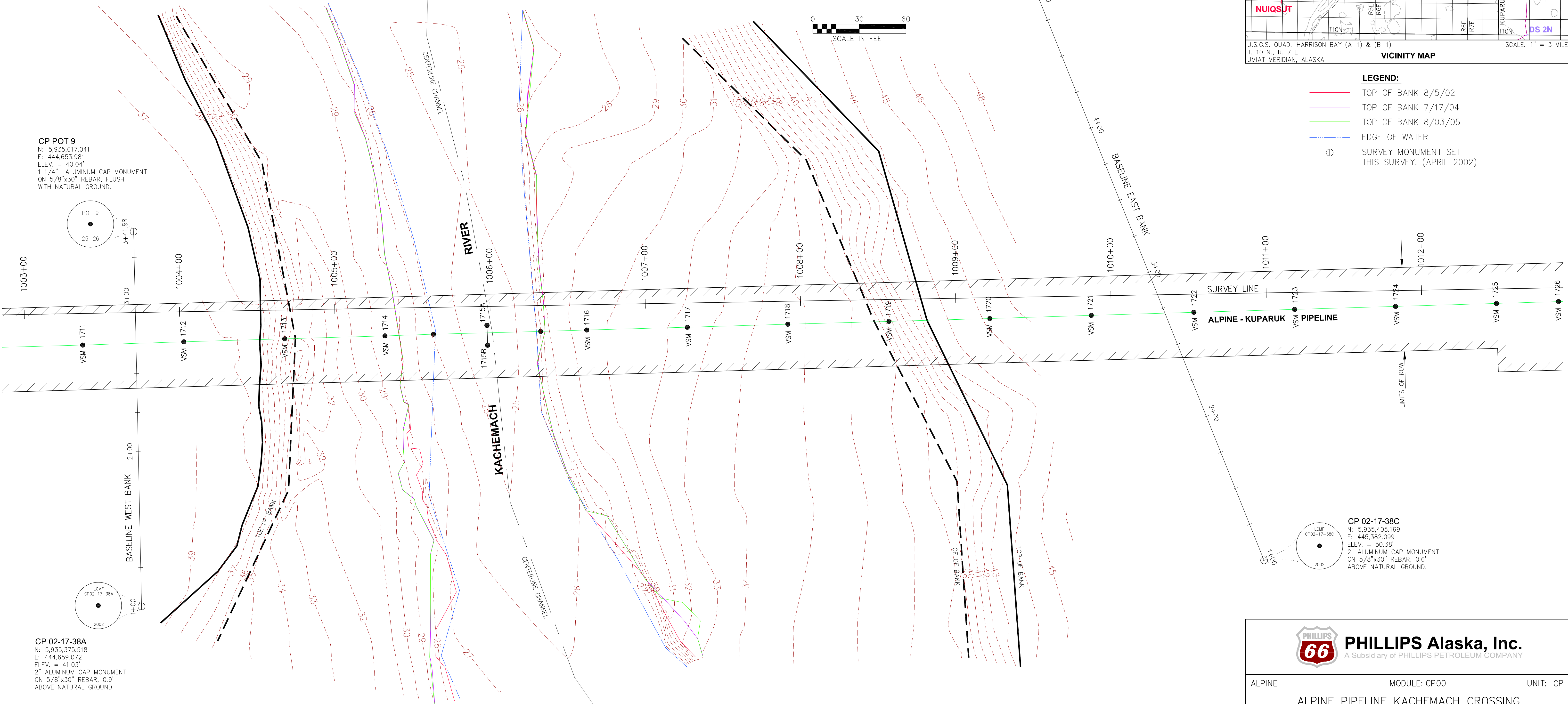
Baseline Station	Point Description	Subsidence Monitor - Cross-Section H								Description
		See Drawing CE-CP00-134 for Survey Cross-Section Locations								
		9/8/2003	7/9/2004	7/28/2005	Future	Future	Future	Future	Future	Date
0+40	Gradebreak	18.2	18.2	18.2						Elevation (In Feet)
			0.0	0.0						Incremental Change
			0.0	0.0						Cumulative Change
0+42	Gradebreak	17.7	17.7	17.8						Elevation (In Feet)
			0.0	0.1						Incremental Change
			0.0	0.1						Cumulative Change
0+50	Tundra	17.2	17.2	17.3						Elevation (In Feet)
			0.0	0.1						Incremental Change
			0.0	0.1						Cumulative Change
***Note: Baseline Stationing Runs from North to South along Cross-Sections.										

Appendix D Kachemach Crossing Survey Data

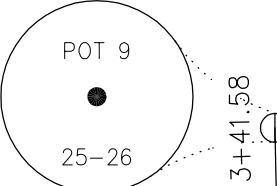
- NOTES:**
- DATES OF SURVEY: APRIL 2002 – AUGUST 2002. JULY 11, 2003. JULY 17, 2004; AUGUST 3 & 4, 2005.
 - REFERENCE FIELD BOOKS: LCMF2002-17, PGS. 37-39, & 44; LCMF2002-23, PG. 22. LCMF2003-11, PGS. 15-17, LCMF2004-08, PGS 56-60. LCMF2005-21, PGS. 13 & 22.
 - VERTICAL CONTROL IS BASED ON AS-BUILT TOP OF STEEL ELEVATIONS AT VSM 1712, 1713 AND 1724 PER DRAWING PD-CP00-109, SHEETS 31 AND 32.
 - HORIZONTAL CONTROL IS BASED ON RECORD COORDINATES OF ALPINE PIPELINE PI 13A AND ALPINE MONUMENT No. 19. COORDINATES ARE ALASKA STATE PLANE, ZONE 4, NAD 27, IN FEET.
 - SEE DOCUMENT RPT-EV-CP-00007 FOR STREAM BANK EROSION BASELINE SURVEY DATA.



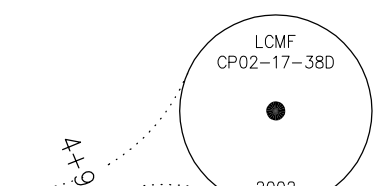
- LEGEND:**
- TOP OF BANK 8/5/02
 - TOP OF BANK 7/17/04
 - TOP OF BANK 8/03/05
 - EDGE OF WATER
 - SURVEY MONUMENT SET THIS SURVEY. (APRIL 2002)



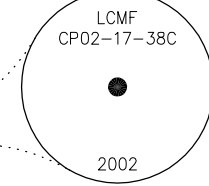
CP POT 9
N: 5,935,617.041
E: 444,653.981
ELEV. = 40.04'
1 1/4" ALUMINUM CAP MONUMENT ON 5/8"x30" REBAR, FLUSH WITH NATURAL GROUND.



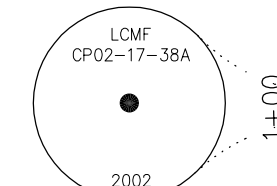
CP 02-17-38D
N: 5,935,771.077
E: 445,235.464
ELEV. = 51.78'
2" ALUMINUM CAP MONUMENT ON 5/8"x30" REBAR, 0.5' ABOVE NATURAL GROUND.



CP 02-17-38C
N: 5,935,405.169
E: 445,382.099
ELEV. = 50.38'
2" ALUMINUM CAP MONUMENT ON 5/8"x30" REBAR, 0.6' ABOVE NATURAL GROUND.



CP 02-17-38A
N: 5,935,375.518
E: 444,659.072
ELEV. = 41.03'
2" ALUMINUM CAP MONUMENT ON 5/8"x30" REBAR, 0.9' ABOVE NATURAL GROUND.



ALPINE MODULE: CP00 UNIT: CP
ALPINE PIPELINE KACHEMACH CROSSING STREAM BANK MONITOR ALPINE, ALASKA

Kuukpik/LCMF
A Subsidiary of Dipnagvik Regional Corporation
Alpine Office (907) 670-4739
Anchorage, Alaska (907) 273-1830
Alpine Survey Office



REV	DATE	REVISIONS	BY	CHK	JOB ENGR	PROJ ENGR	CUST APP	REV	DATE	REVISIONS	BY	CHK	JOB ENGR	PROJ ENGR	CUST APP
4	8/4/05	UPDATED PER 3423995ACS													
3	7/17/04	ISSUED PER 2390461ACS													
2	7/11/03	ISSUED PER 2094388ACS TOP OF BANK 2003 – RECONTOURED													
1	12/16/02	ISSUED PER 1870229ACS													

DATE:	12/16/02	DRAWN:	CZ	DESIGN:	JZ	FCR NO.:	1870229ACS
SCALE:	1" = 30'	CHECKED:	JZ	APPROVAL:		AFC/CC NO.:	1870229
JOB NO.:	02-205	SUB JOB NO.:		DRAWING NO.:	CE-CP00-145	CADD FILE NO.:	02-04-06-2
						SHEET:	1 of 2
						REV:	4

Alpine CP00
Alpine Pipeline Kachemach Crossing
Pilecap Monitor

Location	7/16/2004	8/3/2005	Future	Future	Future	Future	Future	Description
VSM 1713	N/A	43.812						Monitor Point Elev. at Bottom NE Cor Pile Cap
								Incremental Change
								Cumulative Change
VSM 1714	N/A	43.812						Monitor Point Elev. at Bottom NE Cor Pile Cap
								Incremental Change
								Cumulative Change
VSM 1715A	42.272	42.268						Monitor Point Elev. at Bottom NE Cor Pile Cap
		-0.004						Incremental Change
		-0.004						Cumulative Change
VSM 1715B	42.263	42.272						Monitor Point Elev. at Bottom NE Cor Pile Cap
		0.009						Incremental Change
		0.009						Cumulative Change
VSM 1716	N/A	42.612						Monitor Point Elev. at Bottom NE Cor Pile Cap
								Incremental Change
								Cumulative Change

Alpine CP00
Alpine Pipeline Kachemach Crossing
East Streambank Erosion Monitor

Baseline Station	Streambank Monitor - Top of East Bank Locations								Description
	See Drawing CE-CP00-145 Rev 3 for Survey Baseline Location								
	8/5/2002	7/11/2003	7/17/2004	8/3/2005	Future	Future	Future	Future	Date
1+80	363.8	363.8	358.2	358.2					Baseline Offset (In Feet)
		0.0	-5.6	0.0					Incremental Change
		0.0	-5.6	-5.6					Cumulative Change
1+90	367.8	367.8	357.7	356.8					Baseline Offset (In Feet)
		0.0	-10.1	-0.9					Incremental Change
		0.0	-10.1	-10.9					Cumulative Change
2+00	369.4	369.4	360.4	351.9					Baseline Offset (In Feet)
		0.0	-9.0	-8.5					Incremental Change
		0.0	-9.0	-17.5					Cumulative Change
2+10	370.7	370.7	363.9	356.0					Baseline Offset (In Feet)
		0.0	-6.8	-7.9					Incremental Change
		0.0	-6.8	-14.7					Cumulative Change
2+20	371.9	371.9	367.7	366.7					Baseline Offset (In Feet)
		0.0	-4.2	-1.0					Incremental Change
		0.0	-4.2	-5.2					Cumulative Change
2+30	373.0	373.0	371.6	372.1					Baseline Offset (In Feet)
		0.0	-1.4	0.5					Incremental Change
		0.0	-1.4	-0.9					Cumulative Change
2+40	374.8	374.8	374.8	374.8					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change

Alpine CP00
Alpine Pipeline Kachemach Crossing
East Streambank Erosion Monitor

Baseline Station	Streambank Monitor - Top of East Bank Locations								Description
	See Drawing CE-CP00-145 Rev 3 for Survey Baseline Location								
	8/5/2002	7/11/2003	7/17/2004	8/3/2005	Future	Future	Future	Future	Date
2+50	378.3	378.3	376.3	376.3					Baseline Offset (In Feet)
		0.0	-2.0	0.0					Incremental Change
		0.0	-2.0	-2.0					Cumulative Change
2+60	381.8	381.8	377.9	377.9					Baseline Offset (In Feet)
		0.0	-3.9	0.0					Incremental Change
		0.0	-3.9	-3.9					Cumulative Change
2+70	385.3	385.3	379.7	379.7					Baseline Offset (In Feet)
		0.0	-5.6	0.0					Incremental Change
		0.0	-5.6	-5.6					Cumulative Change
2+80	388.9	388.9	381.4	381.4					Baseline Offset (In Feet)
		0.0	-7.5	0.0					Incremental Change
		0.0	-7.5	-7.5					Cumulative Change
2+90	392.6	392.6	390.4	390.4					Baseline Offset (In Feet)
		0.0	-2.2	0.0					Incremental Change
		0.0	-2.2	-2.2					Cumulative Change
3+00	394.0	394.0	394.0	394.0					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
3+10	394.8	394.8	394.8	394.8					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change

Alpine CP00
Alpine Pipeline Kachemach Crossing
East Streambank Erosion Monitor

Baseline Station	Streambank Monitor - Top of East Bank Locations								Description
	See Drawing CE-CP00-145 Rev 3 for Survey Baseline Location								
	8/5/2002	7/11/2003	7/17/2004	8/3/2005	Future	Future	Future	Future	Date
3+20	395.5	395.5	395.5	395.5					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
3+30	395.1	395.1	395.1	395.1					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
3+40	394.8	394.8	394.8	394.8					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
3+50	394.0	394.0	394.0	394.0					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
3+60	392.6	392.6	392.6	392.6					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
3+70	391.1	391.1	391.1	391.1					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
3+80	389.4	389.4	389.4	389.4					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change

Alpine CP00
Alpine Pipeline Kachemach Crossing
East Streambank Erosion Monitor

Baseline Station	Streambank Monitor - Top of East Bank Locations								Description
	See Drawing CE-CP00-145 Rev 3 for Survey Baseline Location								
	8/5/2002	7/11/2003	7/17/2004	8/3/2005	Future	Future	Future	Future	Date
3+90	387.6	387.6	387.6	387.6					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
4+00	381.6	381.6	381.6	381.6					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
4+10	375.0	375.0	375.0	375.0					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
4+20	371.3	371.3	371.3	371.3					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
4+30	368.0	368.0	368.0	368.0					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
4+40	365.4	365.4	365.4	365.4					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
4+50	362.7	362.7	362.7	362.7					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change

Alpine CP00
Alpine Pipeline Kachemach Crossing
East Streambank Erosion Monitor

Baseline Station	Streambank Monitor - Top of East Bank Locations								Description
	See Drawing CE-CP00-145 Rev 3 for Survey Baseline Location								
	8/5/2002	7/11/2003	7/17/2004	8/3/2005	Future	Future	Future	Future	Date
4+60	358.5	358.5	358.5	358.5					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
4+70	356.0	356.0	356.0	356.0					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
4+80	352.4	352.4	352.4	352.4					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
4+90	348.6	348.6	348.6	348.6					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
5+00	344.8	344.8	344.8	344.8					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
5+10	342.3	342.3	342.3	342.3					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
5+20	341.0	341.0	341.0	341.0					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change

Alpine CP00
Alpine Pipeline Kachemach Crossing
East Streambank Erosion Monitor

Baseline Station	Streambank Monitor - Top of East Bank Locations								Description
	See Drawing CE-CP00-145 Rev 3 for Survey Baseline Location								
	8/5/2002	7/11/2003	7/17/2004	8/3/2005	Future	Future	Future	Future	Date
5+30	339.8	339.8	339.8	339.8					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
5+40	335.5	335.5	335.5	335.5					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
5+50	330.7	330.7	330.7	330.7					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
5+60	325.6	325.6	325.6	325.6					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
5+70	320.1	320.1	320.1	320.1					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
5+80	314.6	314.6	314.6	314.6					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
5+90	313.0	313.0	313.0	313.0					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change

Alpine CP00
Alpine Pipeline Kachemach Crossing
East Streambank Erosion Monitor

Baseline Station	Streambank Monitor - Top of East Bank Locations								Description
	See Drawing CE-CP00-145 Rev 3 for Survey Baseline Location								
	8/5/2002	7/11/2003	7/17/2004	8/3/2005	Future	Future	Future	Future	Date
6+00	312.1	312.1	312.1	312.1					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
VSM 1716	349.7	349.7	349.7	349.7					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
***Note: Survey completed on 8/5/02 was used for baseline data to compute Incremental/Cumulative Change. Negative numbers indicate erosion.									

Alpine CP00
Alpine Pipeline Kachemach Crossing
West Streambank Erosion Monitor

Baseline Station	Streambank Monitor - Top of West Bank Locations								Description
	See Drawing CE-CP00-145 Rev 3 for Survey Baseline Location								
	8/5/2002	7/11/2003	7/17/2004	8/3/2005	Future	Future	Future	Future	Date
0+40	199.0	199.0	187.1	187.1					Baseline Offset (In Feet)
		0.0	-11.9	0.0					Incremental Change
		0.0	-11.9	-11.9					Cumulative Change
0+50	196.3	196.3	186.5	186.5					Baseline Offset (In Feet)
		0.0	-9.8	0.0					Incremental Change
		0.0	-9.8	-9.8					Cumulative Change
0+60	191.8	191.8	185.5	185.5					Baseline Offset (In Feet)
		0.0	-6.3	0.0					Incremental Change
		0.0	-6.3	-6.3					Cumulative Change
0+70	189.0	189.0	185.3	185.3					Baseline Offset (In Feet)
		0.0	-3.7	0.0					Incremental Change
		0.0	-3.7	-3.7					Cumulative Change
0+80	189.4	189.4	185.7	185.7					Baseline Offset (In Feet)
		0.0	-3.7	0.0					Incremental Change
		0.0	-3.7	-3.7					Cumulative Change
0+90	194.4	194.4	185.8	185.8					Baseline Offset (In Feet)
		0.0	-8.6	0.0					Incremental Change
		0.0	-8.6	-8.6					Cumulative Change
1+00	200.1	200.1	185.9	185.9					Baseline Offset (In Feet)
		0.0	-14.2	0.0					Incremental Change
		0.0	-14.2	-14.2					Cumulative Change

Alpine CP00
Alpine Pipeline Kachemach Crossing
West Streambank Erosion Monitor

Baseline Station	Streambank Monitor - Top of West Bank Locations								Description
	See Drawing CE-CP00-145 Rev 3 for Survey Baseline Location								
	8/5/2002	7/11/2003	7/17/2004	8/3/2005	Future	Future	Future	Future	Date
1+10	201.7	201.7	186.1	186.1					Baseline Offset (In Feet)
		0.0	-15.6	0.0					Incremental Change
		0.0	-15.6	-15.6					Cumulative Change
1+20	199.2	199.2	186.4	186.4					Baseline Offset (In Feet)
		0.0	-12.8	0.0					Incremental Change
		0.0	-12.8	-12.8					Cumulative Change
1+30	196.4	196.4	186.7	186.7					Baseline Offset (In Feet)
		0.0	-9.7	0.0					Incremental Change
		0.0	-9.7	-9.7					Cumulative Change
1+40	190.4	190.4	188.6	188.6					Baseline Offset (In Feet)
		0.0	-1.8	0.0					Incremental Change
		0.0	-1.8	-1.8					Cumulative Change
1+50	186.8	186.8	183.7	183.7					Baseline Offset (In Feet)
		0.0	-3.1	0.0					Incremental Change
		0.0	-3.1	-3.1					Cumulative Change
1+60	185.1	185.1	178.6	178.6					Baseline Offset (In Feet)
		0.0	-6.5	0.0					Incremental Change
		0.0	-6.5	-6.5					Cumulative Change
1+70	182.4	182.4	171.7	171.7					Baseline Offset (In Feet)
		0.0	-10.7	0.0					Incremental Change
		0.0	-10.7	-10.7					Cumulative Change

Alpine CP00
Alpine Pipeline Kachemach Crossing
West Streambank Erosion Monitor

Baseline Station	Streambank Monitor - Top of West Bank Locations								Description
	See Drawing CE-CP00-145 Rev 3 for Survey Baseline Location								
	8/5/2002	7/11/2003	7/17/2004	8/3/2005	Future	Future	Future	Future	Date
1+80	179.1	179.1	167.7	167.7					Baseline Offset (In Feet)
		0.0	-11.4	0.0					Incremental Change
		0.0	-11.4	-11.4					Cumulative Change
1+90	182.8	182.8	171.2	171.2					Baseline Offset (In Feet)
		0.0	-11.6	0.0					Incremental Change
		0.0	-11.6	-11.6					Cumulative Change
2+00	174.2	174.2	170.8	170.8					Baseline Offset (In Feet)
		0.0	-3.3	0.0					Incremental Change
		0.0	-3.3	-3.3					Cumulative Change
2+10	175.3	175.3	170.9	170.9					Baseline Offset (In Feet)
		0.0	-4.4	0.0					Incremental Change
		0.0	-4.4	-4.4					Cumulative Change
2+20	175.1	175.1	173.1	173.1					Baseline Offset (In Feet)
		0.0	-2.0	0.0					Incremental Change
		0.0	-2.0	-2.0					Cumulative Change
2+30	171.2	171.2	171.2	171.2					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
2+40	169.5	169.5	169.5	169.5					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change

Alpine CP00
Alpine Pipeline Kachemach Crossing
West Streambank Erosion Monitor

Baseline Station	Streambank Monitor - Top of West Bank Locations								Description
	See Drawing CE-CP00-145 Rev 3 for Survey Baseline Location								
	8/5/2002	7/11/2003	7/17/2004	8/3/2005	Future	Future	Future	Future	Date
2+50	171.0	171.0	171.0	171.0					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
2+60	170.9	170.9	170.9	170.9					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
2+71	169.4	169.4	169.4	169.4					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
2+80	168.2	168.2	168.2	168.2					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
2+90	166.8	166.8	166.8	166.8					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
3+00	165.4	165.4	165.4	165.4					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
3+10	163.7	163.7	163.7	163.7					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change

Alpine CP00
Alpine Pipeline Kachemach Crossing
West Streambank Erosion Monitor

Baseline Station	Streambank Monitor - Top of West Bank Locations								Description
	See Drawing CE-CP00-145 Rev 3 for Survey Baseline Location								
	8/5/2002	7/11/2003	7/17/2004	8/3/2005	Future	Future	Future	Future	Date
3+20	161.9	161.9	161.9	161.9					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
3+30	160.9	160.9	160.9	160.9					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
3+40	160.3	160.3	160.3	160.3					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
3+50	159.4	159.4	159.4	159.4					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
3+60	158.1	158.1	158.1	158.1					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
3+70	156.8	156.8	156.8	156.8					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
3+80	154.8	154.8	154.8	154.8					Baseline Offset (In Feet)
		0.0	0.1	0.0					Incremental Change
		0.0	0.1	0.1					Cumulative Change

Alpine CP00
Alpine Pipeline Kachemach Crossing
West Streambank Erosion Monitor

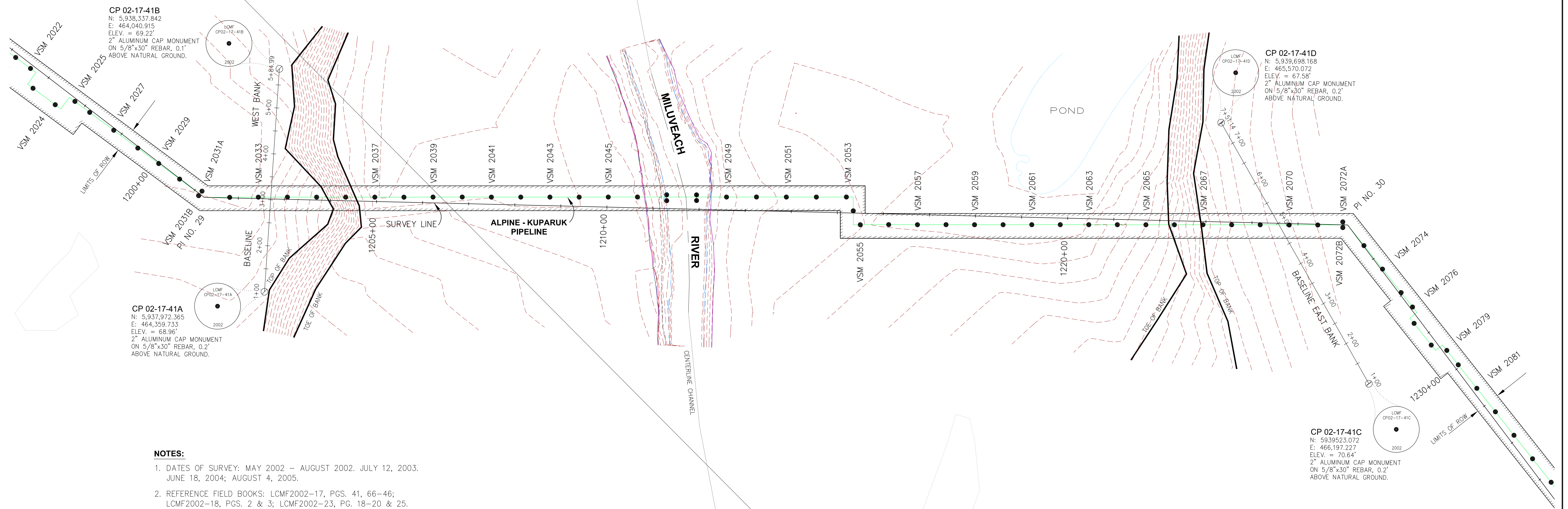
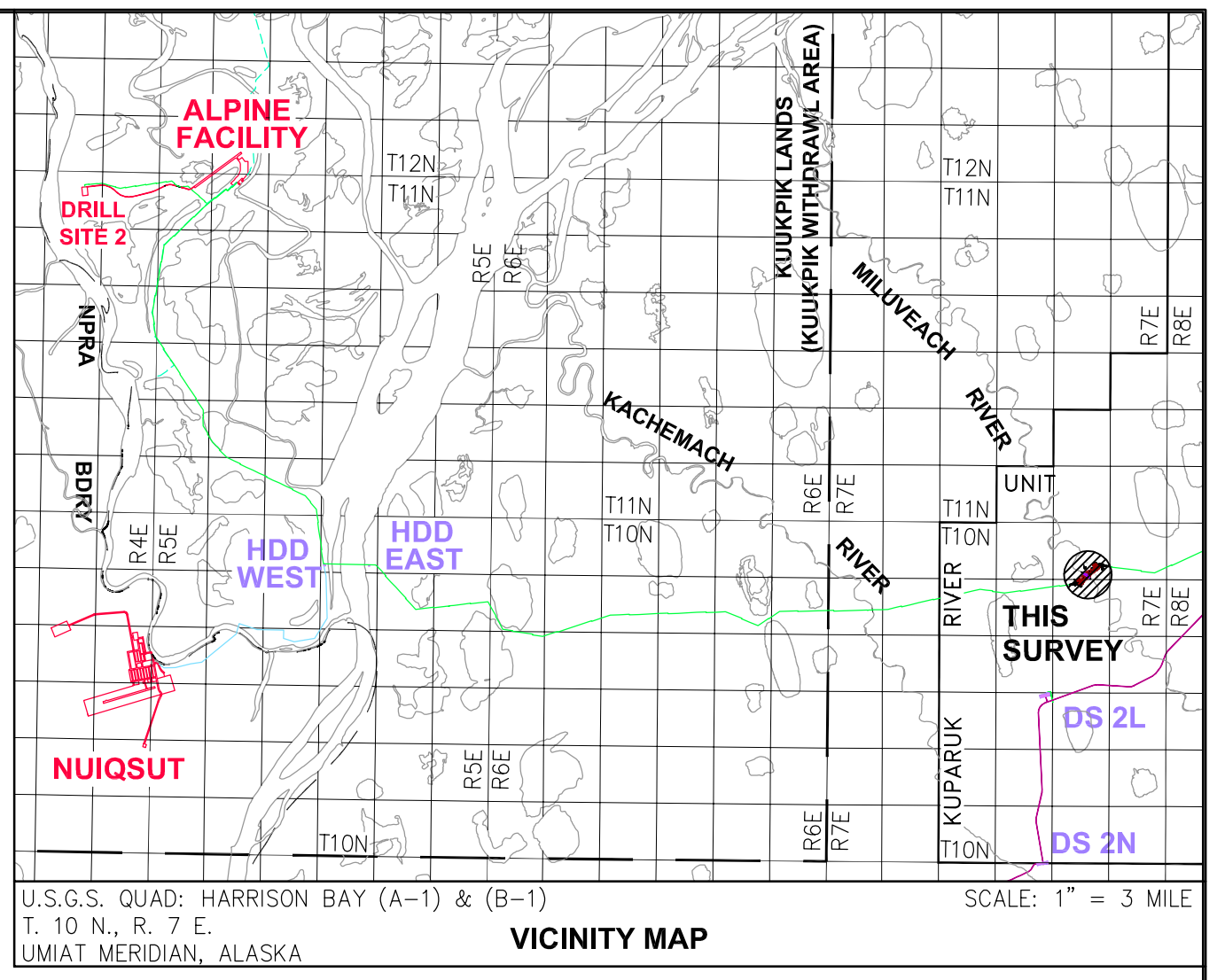
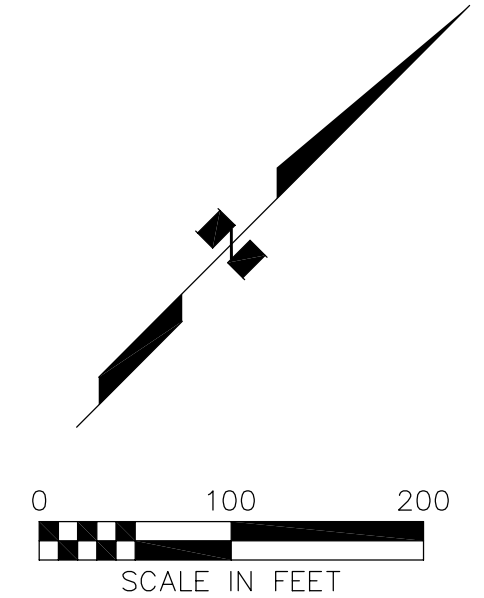
Baseline Station	Streambank Monitor - Top of West Bank Locations								Description
	See Drawing CE-CP00-145 Rev 3 for Survey Baseline Location								
	8/5/2002	7/11/2003	7/17/2004	8/3/2005	Future	Future	Future	Future	Date
3+90	152.5	152.5	152.5	152.5					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
4+00	150.1	150.1	150.1	150.1					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
4+10	146.5	146.5	146.5	146.5					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
4+20	143.8	143.8	143.8	143.8					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
4+30	144.0	144.0	144.0	144.0					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
4+40	141.8	141.8	141.8	141.8					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
4+50	138.7	138.7	138.7	138.7					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change

Alpine CP00
Alpine Pipeline Kachemach Crossing
West Streambank Erosion Monitor

Baseline Station	Streambank Monitor - Top of West Bank Locations								Description
	See Drawing CE-CP00-145 Rev 3 for Survey Baseline Location								
	8/5/2002	7/11/2003	7/17/2004	8/3/2005	Future	Future	Future	Future	Date
4+60	135.5	135.5	135.5	135.5					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
4+70	131.8	131.8	131.8	131.8					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
4+80	128.1	128.1	128.1	128.1					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
VSM 1714	160.5	160.5	160.5	160.5					Baseline Offset (In Feet)
		0.0	0.0	0.0					Incremental Change
		0.0	0.0	0.0					Cumulative Change
***Note: Survey completed on 8/5/02 was used for baseline data to compute Incremental/Cumulative Change. Negative numbers indicate erosion.									

Appendix E Miluveach Crossing Survey Data

LEGEND:
 — TOP OF BANK 8/4/02 & 7/12/03
 — TOP OF BANK 6/18/04
 — TOP OF BANK 8/04/05
 — EDGE OF WATER 6/18/04
 - - - GRADE BREAK 6/18/04
 --- TOE OF SLOPE 6/18/04
 ⊕ SURVEY MONUMENT SET THIS SURVEY. (APRIL 2002)



- NOTES:**
- DATES OF SURVEY: MAY 2002 – AUGUST 2002. JULY 12, 2003. JUNE 18, 2004; AUGUST 4, 2005.
 - REFERENCE FIELD BOOKS: LCMF2002-17, PGS. 41, 66-46; LCMF2002-18, PGS. 2 & 3; LCMF2002-23, PG. 18-20 & 25. LCMF2003-11, PGS. 18-21; LCMF2004-8, PGS 1-11; LCMF2005-21, PGS. 17-21.
 - VERTICAL CONTROL BASED ON AS-BUILT TOP OF STEEL ELEVATIONS AT VSM 2049 AND 2059 PER DRAWING PD-CP00-109, SHEETS 38 AND 39.
 - HORIZONTAL CONTROL IS BASED ON RECORD COORDINATES OF ALPINE PIPELINE PI 13A AND ALPINE MONUMENT No. 19. COORDINATES ARE ALASKA STATE PLANE, ZONE 4, NAD 27, IN FEET.
 - SEE DOCUMENT RPT-EV-CP-00008 FOR STREAM BANK EROSION BASELINE SURVEY DATA.

ConocoPhillips
 Alaska, Inc.

ALPINE MODULE: CP00 UNIT: CP
 ALPINE PIPELINE MILUVEACH CROSSING
 STREAM BANK MONITOR
 ALPINE, ALASKA

REDRAWN FROM: CONSTRUCTION SHEET OF

DATE: 12/19/02 DRAWN: CZ DESIGN: JZ
 SCALE: 1" = 100' CHECKED: JZ
 APPROVAL:

JOB NO: 02-205 SUB JOB NO: DRAWING NO: CE-CP00-144
 PART: 1 OF 2 REV: 4

Kuukpik/LCMF
 A subsidiary of Dipuagvik Regional Corporation
 Alpine Office (907) 670-4739
 Anchorage, Alaska (907) 273-1830
 Alpine Survey Office

REV	DATE	REVISIONS	BY	CHK	JOB ENGR	PROJ ENGR	CUST APP
4	8/5/05	UPDATED PER 3423996ACS					
3	6/??/04	REVISED PER 2390462ACS					
2	7/11/03	ISSUED PER 2094389ACS CHECKED SUSIDENCE-RECONTOURED					
1	12/19/02	ISSUED PER 1870228ACS					

Calc'd By: CZ
Date: 8/05/2005

Alpine CP 00
Alpine Pipeline Miluveach Crossing
Pile Monitor

Kuukpik/LCMF
Alpine Survey Office

Location	6/18/2004	8/3/2005	Furture	Furture	Furture	Furture	Description
VSM 2046	57.611	57.595					Monitor Point Elev. at Bottom SE Cor Pile Cap
		-0.016					Incremental Change
		-0.016					Cumulative Change
HSM 2046 (North)	57.791	57.785					Monitor Point Elev. at North End, Bottom NE Cor.
		-0.006					Incremental Change
		-0.006					Cumulative Change
HSM 2046 (South)	57.631	57.620					Monitor Point Elev. at South End, Bottom SE Cor.
		-0.011					Incremental Change
		-0.011					Cumulative Change
VSM 2047A	57.528	57.465					Monitor Point Elev. at Bottom SE Cor Pile Cap
		-0.063					Incremental Change
		-0.063					Cumulative Change
HSM 2047A (North)	57.449	57.540					Monitor Point Elev. at North End, Bottom NE Cor.
		0.091					Incremental Change
		0.091					Cumulative Change
VSM 2047B	57.433	57.450					Monitor Point Elev. at South End, Bottom SE Cor.
		0.018					Incremental Change
		0.018					Cumulative Change
HSM 2047B (South)	57.527	57.540					Monitor Point Elev. at South End, Bottom SE Cor.
		0.013					Incremental Change
		0.013					Cumulative Change

Calc'd By: CZ
Date: 8/05/2005

Alpine CP 00
Alpine Pipeline Miluveach Crossing
Pile Monitor

Kuukpik/LCMF
Alpine Survey Office

VSM 2048A	57.635	57.665					Monitor Point Elev. at Bottom SE Cor Pile Cap
		0.030					Incremental Change
		0.030					Cumulative Change
HSM 2048A (North)	57.725	57.760					Monitor Point Elev. at North End, Bottom NE Cor.
		0.035					Incremental Change
		0.035					Cumulative Change
VSM 2048B	57.591	57.615					Monitor Point Elev. at South End, Bottom SE Cor.
		0.024					Incremental Change
		0.024					Cumulative Change
HSM 2048B (South)	57.691	57.710					Monitor Point Elev. at South End, Bottom SE Cor.
		0.019					Incremental Change
		0.019					Cumulative Change
VSM 2049	57.494	57.475					Monitor Point Elev. at Bottom SE Cor Pile Cap
		-0.019					Incremental Change
		-0.019					Cumulative Change
HSM 2049 (North)	57.564	57.550					Monitor Point Elev. at North End, Bottom NE Cor.
		-0.014					Incremental Change
		-0.014					Cumulative Change
HSM 2049 (South)	57.587	57.565					Monitor Point Elev. at South End, Bottom SE Cor.
		-0.022					Incremental Change
		-0.022					Cumulative Change

Alpine CP 00
Alpine Pipeline Miluveach Crossing
East Streambank Erosion Monitor

Baseline Station	Streambank Monitor - Top of East Bank Locations									Description
	See Drawing CE-CP00-144 Rev 3 for Survey Baseline Location									
	8/4/2002	7/12/2003	6/18/2004	8/4/2005	Future	Future	Future	Future	Future	Date
8+80	1196.2	1196.2	1196.2	1196.2						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
8+90	1190.3	1190.3	1190.3	1190.3						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
9+00	1184.3	1184.3	1184.3	1184.3						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
9+10	1178.3	1178.3	1178.3	1178.3						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
9+20	1172.4	1172.4	1172.4	1172.4						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
9+30	1166.4	1166.4	1166.4	1166.4						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
9+40	1160.3	1160.3	1160.3	1160.3						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change

Alpine CP 00
Alpine Pipeline Miluveach Crossing
East Streambank Erosion Monitor

Baseline Station	Streambank Monitor - Top of East Bank Locations									Description
	See Drawing CE-CP00-144 Rev 3 for Survey Baseline Location									
	8/4/2002	7/12/2003	6/18/2004	8/4/2005	Future	Future	Future	Future	Future	Date
9+50	1154.3	1154.3	1154.3	1154.3						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
9+60	1148.2	1148.2	1148.2	1148.2						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
9+70	1142.0	1142.0	1142.0	1142.0						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
9+80	1135.5	1135.5	1135.5	1135.5						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
9+90	1129.0	1129.0	1129.0	1129.0						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
10+00	1122.5	1122.5	1122.5	1122.5						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
10+10	1116.0	1116.0	1116.0	1116.0						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change

Alpine CP 00
Alpine Pipeline Miluveach Crossing
East Streambank Erosion Monitor

Baseline Station	Streambank Monitor - Top of East Bank Locations									Description
	See Drawing CE-CP00-144 Rev 3 for Survey Baseline Location									
	8/4/2002	7/12/2003	6/18/2004	8/4/2005	Future	Future	Future	Future	Future	Date
10+20	1110.7	1110.7	1110.7	1110.7						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
10+30	1105.7	1105.7	1105.7	1105.7						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
10+40	1100.6	1100.6	1100.6	1100.6						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
10+50	1095.5	1095.5	1095.5	1095.5						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
10+60	1090.5	1090.5	1090.5	1090.5						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
10+70	1086.2	1086.2	1086.2	1086.2						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
10+80	1082.3	1082.3	1082.3	1082.3						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change

Alpine CP 00
Alpine Pipeline Miluveach Crossing
East Streambank Erosion Monitor

Baseline Station	Streambank Monitor - Top of East Bank Locations									Description
	See Drawing CE-CP00-144 Rev 3 for Survey Baseline Location									
	8/4/2002	7/12/2003	6/18/2004	8/4/2005	Future	Future	Future	Future	Future	Date
10+90	1078.4	1078.4	1078.4	1078.4						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
11+00	1074.4	1074.4	1074.4	1074.4						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
11+10	1070.5	1070.5	1070.5	1070.5						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
11+20	1065.1	1065.1	1065.1	1065.1						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
11+30	1058.3	1058.3	1058.3	1058.3						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
VSM 2049 {11+38.57}	1013.8	1013.8	1013.8	1013.8						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
11+40	1051.6	1051.6	1051.6	1051.6						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change

Alpine CP 00
Alpine Pipeline Miluveach Crossing
East Streambank Erosion Monitor

Baseline Station	Streambank Monitor - Top of East Bank Locations									Description
	See Drawing CE-CP00-144 Rev 3 for Survey Baseline Location									
	8/4/2002	7/12/2003	6/18/2004	8/4/2005	Future	Future	Future	Future	Future	Date
11+55	1042.9	1042.9	1042.9	1042.9						Baseline Offset (In Feet)
{Pipeline		0.0	0.0	0.0						Incremental Change
Crossing}		0.0	0.0	0.0						Cumulative Change
11+70	1033.0	1033.0	1033.0	1033.0						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
11+80	1027.5	1027.5	1027.5	1027.5						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
11+90	1024.0	1024.0	1024.0	1024.0						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
12+00	1017.6	1017.6	1017.6	1017.6						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
12+10	1012.1	1012.1	1010.9	1010.9						Baseline Offset (In Feet)
		0.0	-1.1	0.0						Incremental Change
		0.0	-1.1	-1.1						Cumulative Change
12+20	1007.1	1007.1	1004.8	1007.1						Baseline Offset (In Feet)
		0.0	-2.3	2.2						Incremental Change
		0.0	-2.3	0.0						Cumulative Change

Alpine CP 00
Alpine Pipeline Miluveach Crossing
East Streambank Erosion Monitor

Baseline Station	Streambank Monitor - Top of East Bank Locations									Description
	See Drawing CE-CP00-144 Rev 3 for Survey Baseline Location									
	8/4/2002	7/12/2003	6/18/2004	8/4/2005	Future	Future	Future	Future	Future	Date
12+30	1001.8	1001.8	999.4	1001.8						Baseline Offset (In Feet)
		0.0	-2.4	2.3						Incremental Change
		0.0	-2.4	0.0						Cumulative Change
12+40	994.5	994.5	994.5	994.5						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
12+50	993.8	993.8	993.8	993.8						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
12+60	993.2	993.2	993.2	993.2						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
12+70	998.0	998.0	998.0	998.0						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
12+80	1001.9	1001.9	1001.9	1001.9						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
12+90	1001.1	1001.1	1001.1	1001.1						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change

Alpine CP 00
Alpine Pipeline Miluveach Crossing
East Streambank Erosion Monitor

Baseline Station	Streambank Monitor - Top of East Bank Locations									Description
	See Drawing CE-CP00-144 Rev 3 for Survey Baseline Location									
	8/4/2002	7/12/2003	6/18/2004	8/4/2005	Future	Future	Future	Future	Future	Date
13+00	1000.3	1000.3	1000.3	1000.3						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
13+10	999.4	999.4	999.4	999.4						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
13+20	998.8	998.8	998.8	998.8						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
13+30	997.8	997.8	997.8	997.8						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
13+40	996.8	996.8	996.8	996.8						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
13+50	995.8	995.8	995.8	995.8						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
13+60	994.7	994.7	994.7	994.7						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change

Alpine CP 00
Alpine Pipeline Miluveach Crossing
East Streambank Erosion Monitor

Baseline Station	Streambank Monitor - Top of East Bank Locations									Description
	See Drawing CE-CP00-144 Rev 3 for Survey Baseline Location									
	8/4/2002	7/12/2003	6/18/2004	8/4/2005	Future	Future	Future	Future	Future	Date
13+70	993.7	993.7	993.7	993.7						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
13+80	992.6	992.6	992.6	992.6						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
13+90	991.4	991.4	991.4	991.4						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
14+00	988.1	988.1	988.1	988.1						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
14+10	984.8	984.8	984.8	984.8						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
14+20	981.5	981.5	981.5	981.5						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
14+30	978.2	978.2	978.2	978.2						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change

Alpine CP 00
Alpine Pipeline Miluveach Crossing
East Streambank Erosion Monitor

Baseline Station	Streambank Monitor - Top of East Bank Locations									Description
	See Drawing CE-CP00-144 Rev 3 for Survey Baseline Location									
	8/4/2002	7/12/2003	6/18/2004	8/4/2005	Future	Future	Future	Future	Future	Date
14+40	976.2	976.2	976.2	976.2						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
14+50	975.6	975.6	975.6	975.6						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
14+60	975.0	975.0	975.0	975.0						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
14+70	974.4	974.4	974.4	974.4						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
14+80	973.8	973.8	973.8	973.8						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
14+90	973.0	973.0	973.0	973.0						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
15+00	972.1	972.1	972.1	972.1						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change

***Note: Survey completed on 8/5/02 was used for baseline data to compute Incremental/Cumulative Change. Negative numbers indicate erosion.

Alpine CP 00
Alpine Pipeline Miluveach Crossing
West Streambank Erosion Monitor

Baseline Station	Streambank Monitor - Top of West Bank Locations									Description
	See Drawing CE-CP00-144 Rev 4 for Survey Baseline Location									
	8/4/2002	7/12/2003	6/18/2004	8/4/2005	Future	Future	Future	Future	Future	Date
0+50	859.5	859.5	858.0	858.0						Baseline Offset (In Feet)
		0.0	-1.5	0.0						Incremental Change
		0.0	-1.5	-1.5						Cumulative Change
0+60	859.7	859.7	856.9	856.9						Baseline Offset (In Feet)
		0.0	-2.8	0.0						Incremental Change
		0.0	-2.8	-2.8						Cumulative Change
0+70	859.0	859.0	856.2	856.2						Baseline Offset (In Feet)
		0.0	-2.7	0.0						Incremental Change
		0.0	-2.7	-2.7						Cumulative Change
0+80	859.2	859.2	855.6	855.6						Baseline Offset (In Feet)
		0.0	-3.7	0.0						Incremental Change
		0.0	-3.7	-3.7						Cumulative Change
0+90	858.7	858.7	855.9	855.9						Baseline Offset (In Feet)
		0.0	-2.9	0.0						Incremental Change
		0.0	-2.9	-2.9						Cumulative Change
1+00	858.1	858.1	856.1	856.1						Baseline Offset (In Feet)
		0.0	-2.0	0.0						Incremental Change
		0.0	-2.0	-2.0						Cumulative Change
1+10	857.4	857.4	855.8	855.8						Baseline Offset (In Feet)
		0.0	-1.6	0.0						Incremental Change
		0.0	-1.6	-1.6						Cumulative Change

Alpine CP 00
Alpine Pipeline Miluveach Crossing
West Streambank Erosion Monitor

Baseline Station	Streambank Monitor - Top of West Bank Locations									Description
	See Drawing CE-CP00-144 Rev 4 for Survey Baseline Location									
	8/4/2002	7/12/2003	6/18/2004	8/4/2005	Future	Future	Future	Future	Future	Date
1+20	856.5	856.5	854.8	854.8						Baseline Offset (In Feet)
		0.0	-1.7	0.0						Incremental Change
		0.0	-1.7	-1.7						Cumulative Change
1+30	854.6	854.6	852.5	852.5						Baseline Offset (In Feet)
		0.0	-2.2	0.0						Incremental Change
		0.0	-2.2	-2.1						Cumulative Change
1+40	854.4	854.4	851.1	851.1						Baseline Offset (In Feet)
		0.0	-3.3	0.0						Incremental Change
		0.0	-3.3	-3.3						Cumulative Change
1+50	854.0	854.0	849.7	849.7						Baseline Offset (In Feet)
		0.0	-4.3	0.0						Incremental Change
		0.0	-4.3	-4.3						Cumulative Change
1+60	851.8	851.8	847.9	847.9						Baseline Offset (In Feet)
		0.0	-3.9	0.0						Incremental Change
		0.0	-3.9	-3.9						Cumulative Change
1+70	850.3	850.3	845.9	845.9						Baseline Offset (In Feet)
		0.0	-4.4	0.0						Incremental Change
		0.0	-4.4	-4.4						Cumulative Change
1+80	848.8	848.8	843.8	843.8						Baseline Offset (In Feet)
		0.0	-5.1	0.0						Incremental Change
		0.0	-5.1	-5.1						Cumulative Change

Alpine CP 00
Alpine Pipeline Miluveach Crossing
West Streambank Erosion Monitor

Baseline Station	Streambank Monitor - Top of West Bank Locations									Description
	See Drawing CE-CP00-144 Rev 4 for Survey Baseline Location									
	8/4/2002	7/12/2003	6/18/2004	8/4/2005	Future	Future	Future	Future	Future	Date
1+90	846.4	846.4	841.7	841.7						Baseline Offset (In Feet)
		0.0	-4.7	0.0						Incremental Change
		0.0	-4.7	-4.7						Cumulative Change
2+00	842.2	842.2	839.4	839.4						Baseline Offset (In Feet)
		0.0	-2.7	0.0						Incremental Change
		0.0	-2.7	-2.7						Cumulative Change
2+10	838.1	838.1	837.2	837.2						Baseline Offset (In Feet)
		0.0	-0.9	0.0						Incremental Change
		0.0	-0.9	-0.9						Cumulative Change
2+20	837.1	837.1	835.7	835.7						Baseline Offset (In Feet)
		0.0	-1.4	0.0						Incremental Change
		0.0	-1.4	-1.4						Cumulative Change
2+30	836.1	836.1	834.1	834.1						Baseline Offset (In Feet)
		0.0	-2.0	0.0						Incremental Change
		0.0	-2.0	-2.0						Cumulative Change
2+40	834.7	834.7	832.4	832.4						Baseline Offset (In Feet)
		0.0	-2.3	0.0						Incremental Change
		0.0	-2.3	-2.3						Cumulative Change
2+50	830.5	830.5	829.3	829.3						Baseline Offset (In Feet)
		0.0	-1.1	0.0						Incremental Change
		0.0	-1.1	-1.1						Cumulative Change

Alpine CP 00
Alpine Pipeline Miluveach Crossing
West Streambank Erosion Monitor

Baseline Station	Streambank Monitor - Top of West Bank Locations									Description
	See Drawing CE-CP00-144 Rev 4 for Survey Baseline Location									
	8/4/2002	7/12/2003	6/18/2004	8/4/2005	Future	Future	Future	Future	Future	Date
2+60	827.7	827.7	827.1	827.1						Baseline Offset (In Feet)
		0.0	-0.6	0.0						Incremental Change
		0.0	-0.6	-0.6						Cumulative Change
2+70	826.0	826.0	825.5	825.5						Baseline Offset (In Feet)
		0.0	-0.6	0.0						Incremental Change
		0.0	-0.6	-0.6						Cumulative Change
2+80	824.6	824.6	823.8	823.8						Baseline Offset (In Feet)
		0.0	-0.8	0.0						Incremental Change
		0.0	-0.8	-0.8						Cumulative Change
2+90	823.5	823.5	822.1	822.1						Baseline Offset (In Feet)
		0.0	-1.4	0.0						Incremental Change
		0.0	-1.4	-1.4						Cumulative Change
3+00	822.3	822.3	820.4	820.4						Baseline Offset (In Feet)
		0.0	-1.9	0.0						Incremental Change
		0.0	-1.9	-1.9						Cumulative Change
3+10	821.1	821.1	818.8	818.8						Baseline Offset (In Feet)
		0.0	-2.3	0.0						Incremental Change
		0.0	-2.3	-2.3						Cumulative Change
3+20	818.9	818.9	816.8	816.8						Baseline Offset (In Feet)
		0.0	-2.2	0.0						Incremental Change
		0.0	-2.2	-2.2						Cumulative Change

Alpine CP 00
Alpine Pipeline Miluveach Crossing
West Streambank Erosion Monitor

Baseline Station	Streambank Monitor - Top of West Bank Locations									Description
	See Drawing CE-CP00-144 Rev 4 for Survey Baseline Location									
	8/4/2002	7/12/2003	6/18/2004	8/4/2005	Future	Future	Future	Future	Future	Date
3+30	816.4	816.4	814.8	814.8						Baseline Offset (In Feet)
		0.0	-1.6	0.0						Incremental Change
		0.0	-1.6	-1.6						Cumulative Change
3+40	814.9	814.9	812.7	812.7						Baseline Offset (In Feet)
		0.0	-2.3	0.0						Incremental Change
		0.0	-2.3	-2.3						Cumulative Change
3+50	812.0	812.0	810.7	810.7						Baseline Offset (In Feet)
		0.0	-1.3	0.0						Incremental Change
		0.0	-1.3	-1.3						Cumulative Change
VSM 2046 {3+59.23}	793.8	793.8	793.8	793.8						Baseline Offset (In Feet)
		0.0	0.0	0.0						Incremental Change
		0.0	0.0	0.0						Cumulative Change
3+60 {Pipeline Crossing}	810.3	810.3	809.1	809.1						Baseline Offset (In Feet)
		0.0	-1.2	0.0						Incremental Change
		0.0	-1.2	-1.2						Cumulative Change
3+70	807.8	807.8	805.9	805.9						Baseline Offset (In Feet)
		0.0	-1.9	0.0						Incremental Change
		0.0	-1.9	-1.9						Cumulative Change
3+80	805.2	805.2	804.3	804.3						Baseline Offset (In Feet)
		0.0	-0.9	0.0						Incremental Change
		0.0	-0.9	-0.9						Cumulative Change

Alpine CP 00
Alpine Pipeline Miluveach Crossing
West Streambank Erosion Monitor

Baseline Station	Streambank Monitor - Top of West Bank Locations									Description
	See Drawing CE-CP00-144 Rev 4 for Survey Baseline Location									
	8/4/2002	7/12/2003	6/18/2004	8/4/2005	Future	Future	Future	Future	Future	Date
3+90	802.7	802.7	801.4	801.4						Baseline Offset (In Feet)
		0.0	-1.3	0.0						Incremental Change
		0.0	-1.3	-1.3						Cumulative Change
4+00	801.7	801.7	800.4	800.4						Baseline Offset (In Feet)
		0.0	-1.2	0.0						Incremental Change
		0.0	-1.2	-1.2						Cumulative Change
4+10	799.2	799.2	798.4	798.4						Baseline Offset (In Feet)
		0.0	-0.8	0.0						Incremental Change
		0.0	-0.8	-0.8						Cumulative Change
4+20	797.0	797.0	796.3	796.3						Baseline Offset (In Feet)
		0.0	-0.7	0.0						Incremental Change
		0.0	-0.7	-0.7						Cumulative Change
4+30	794.9	794.9	793.8	793.8						Baseline Offset (In Feet)
		0.0	-1.1	0.0						Incremental Change
		0.0	-1.1	-1.1						Cumulative Change
4+40	792.2	792.2	791.3	791.3						Baseline Offset (In Feet)
		0.0	-0.9	0.0						Incremental Change
		0.0	-0.9	-0.9						Cumulative Change
4+50	789.9	789.9	789.1	789.1						Baseline Offset (In Feet)
		0.0	-0.8	0.0						Incremental Change
		0.0	-0.8	-0.8						Cumulative Change

Alpine CP 00
Alpine Pipeline Miluveach Crossing
West Streambank Erosion Monitor

Baseline Station	Streambank Monitor - Top of West Bank Locations									Description
	See Drawing CE-CP00-144 Rev 4 for Survey Baseline Location									
	8/4/2002	7/12/2003	6/18/2004	8/4/2005	Future	Future	Future	Future	Future	Date
4+60	788.7	788.7	787.3	787.3						Baseline Offset (In Feet)
		0.0	-1.4	0.0						Incremental Change
		0.0	-1.4	-1.4						Cumulative Change
4+70	786.3	786.3	784.8	784.8						Baseline Offset (In Feet)
		0.0	-1.5	0.0						Incremental Change
		0.0	-1.5	-1.5						Cumulative Change
4+80	783.1	783.1	781.7	781.7						Baseline Offset (In Feet)
		0.0	-1.4	0.0						Incremental Change
		0.0	-1.4	-1.4						Cumulative Change
4+90	780.0	780.0	778.6	778.6						Baseline Offset (In Feet)
		0.0	-1.3	0.0						Incremental Change
		0.0	-1.3	-1.3						Cumulative Change
5+00	776.3	776.3	775.1	775.1						Baseline Offset (In Feet)
		0.0	-1.2	0.0						Incremental Change
		0.0	-1.2	-1.2						Cumulative Change
5+10	772.4	772.4	771.3	771.3						Baseline Offset (In Feet)
		0.0	-1.1	0.0						Incremental Change
		0.0	-1.1	-1.1						Cumulative Change
5+20	768.7	768.7	767.5	767.5						Baseline Offset (In Feet)
		0.0	-1.2	0.0						Incremental Change
		0.0	-1.2	-1.2						Cumulative Change

Alpine CP 00
Alpine Pipeline Miluveach Crossing
West Streambank Erosion Monitor

Baseline Station	Streambank Monitor - Top of West Bank Locations									Description
	See Drawing CE-CP00-144 Rev 4 for Survey Baseline Location									
	8/4/2002	7/12/2003	6/18/2004	8/4/2005	Future	Future	Future	Future	Future	Date
5+30	765.1	765.1	763.7	763.7						Baseline Offset (In Feet)
		0.0	-1.4	0.0						Incremental Change
		0.0	-1.4	-1.4						Cumulative Change
5+40	761.4	761.4	759.8	759.8						Baseline Offset (In Feet)
		0.0	-1.6	0.0						Incremental Change
		0.0	-1.6	-1.6						Cumulative Change
5+50	757.0	757.0	755.8	755.8						Baseline Offset (In Feet)
		0.0	-1.2	0.0						Incremental Change
		0.0	-1.2	-1.2						Cumulative Change
5+60	752.6	752.6	751.6	751.6						Baseline Offset (In Feet)
		0.0	-0.9	0.0						Incremental Change
		0.0	-0.9	-0.9						Cumulative Change
5+70	748.0	748.0	747.0	747.0						Baseline Offset (In Feet)
		0.0	-1.0	0.0						Incremental Change
		0.0	-1.0	-1.0						Cumulative Change
5+80	743.5	743.5	742.4	742.4						Baseline Offset (In Feet)
		0.0	-1.1	0.0						Incremental Change
		0.0	-1.1	-1.1						Cumulative Change
5+90	739.4	739.4	738.4	738.4						Baseline Offset (In Feet)
		0.0	-1.1	0.0						Incremental Change
		0.0	-1.1	-1.1						Cumulative Change

Alpine CP 00
Alpine Pipeline Miluveach Crossing
West Streambank Erosion Monitor

Baseline Station	Streambank Monitor - Top of West Bank Locations									Description
	See Drawing CE-CP00-144 Rev 4 for Survey Baseline Location									
	8/4/2002	7/12/2003	6/18/2004	8/4/2005	Future	Future	Future	Future	Future	Date
6+00	735.5	735.5	734.2	734.2						Baseline Offset (In Feet)
		0.0	-1.3	0.0						Incremental Change
		0.0	-1.3	-1.3						Cumulative Change
6+10	731.5	731.5	730.0	730.0						Baseline Offset (In Feet)
		0.0	-1.5	0.0						Incremental Change
		0.0	-1.5	-1.5						Cumulative Change
6+20	726.6	726.6	725.3	725.3						Baseline Offset (In Feet)
		0.0	-1.3	0.0						Incremental Change
		0.0	-1.3	-1.3						Cumulative Change
6+30	721.7	721.7	720.5	720.5						Baseline Offset (In Feet)
		0.0	-1.3	0.0						Incremental Change
		0.0	-1.3	-1.3						Cumulative Change
6+40	716.9	716.9	715.6	715.6						Baseline Offset (In Feet)
		0.0	-1.2	0.0						Incremental Change
		0.0	-1.2	-1.2						Cumulative Change
6+50	712.0	712.0	710.8	710.8						Baseline Offset (In Feet)
		0.0	-1.2	0.0						Incremental Change
		0.0	-1.2	-1.2						Cumulative Change
6+60	707.1	707.1	705.9	705.9						Baseline Offset (In Feet)
		0.0	-1.2	0.0						Incremental Change
		0.0	-1.2	-1.2						Cumulative Change

***Note: Survey completed on 8/4/02 was used for baseline data to compute Incremental/Cumulative Change. Negative numbers indicate erosion.

