2015 Alpine Pipeline Hydrology Monitoring

ConocoPhillips Alaska

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Acronyms and Abbreviations

BPMSL	British Petroleum Mean Sea Level
CPAI	ConocoPhillips Alaska, Inc.
E	East
ft/ft	feet per vertical foot
ft/yr	feet per year
HDD	Horizontal directionally drilled
in/ft	inches per vertical foot
LCMF	Umiaq, LLC (LCMF)
Michael Baker	Michael Baker International
N	North
NPS	nominal pipe size
S	South
STA	Station
VSM	Vertical support member
W	West

1.0 INTRODUCTION

Originally constructed during the winter of 1998/1999, the Alpine Pipeline System crosses three rivers between the Alpine Development CD1 facility and the tie-in to the Kuparuk Pipeline. The three river crossings are the horizontal directionally drilled (HDD) crossing of the Colville River East Channel, and the above ground crossings of the Kachemach River and the Miluveach River.

Monitoring of the pipeline crossings is required by the Right-of-Way Lease/Grant Stipulations and the ConocoPhillips Alaska, Inc. (CPAI) Alpine Pipelines Surveillance and Monitoring Program (CPAI 2008). The Alpine Pipelines Surveillance and Monitoring Program identifies parameters for collecting data and evaluating the physical condition of the pipelines. Monitoring is conducted to document the condition of the pipeline and the pipeline's effect on channel morphology at each river crossing. The record of monitoring allows for an annual comparison between observed conditions and the design criteria.

Michael Baker International (Michael Baker) conducted initial monitoring of the HDD crossing of the Colville River East Channel in 2001. Annual monitoring of this crossing has been performed since 2003. Bank migration surveys have been conducted annually by UMIAQ, LLC (LCMF) since 2003 and pile cap elevation surveys since 2004 (Michael Baker 2002, 2003a, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, and 2014).

Initial monitoring of the Kachemach River and Miluveach River pipeline crossings was conducted in 2003. Annual monitoring was performed in 2004, 2005, and 2006; bank migration and pile cap elevation surveys were performed by LCMF. Over these four years of monitoring, deminimis scour, erosion, or vertical support member (VSM) tilt were observed at these locations. In the fall of 2006, a five-year monitoring interval was recommended. Michael Baker did not conduct pipeline crossing monitoring at the Kachemach or Miluveach sites in 2007; monitoring resumed at these locations in 2008 and has continued annually. LCMF conducted bank migration surveys at the Kachemach and Miluveach River crossing sites in 2002 through 2008 and in 2012. The next surveys are planned for the 2017 monitoring program (Michael Baker 2003a, 2004, 2005, 2006, 2008, 2009, 2010, 2011, 2012, 2013, and 2014). Results of the 2012 survey appear in the *2012 Alpine Pipeline River Crossings Monitoring Report* (Michael Baker 2012).

Michael Baker conducted the 2015 Alpine Pipeline river crossing monitoring. The 2015 monitoring activities included visual observations and pipeline tilt measurements at the three crossings, and LCMF bank erosion and pile cap elevation surveys at the HDD crossing of the Colville River East Channel. The 2015 Alpine Pipeline river crossing monitoring sites are included in Figure 1.

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2015 Alpine Pipeline River Crossing Monitoring Sites

FIGURE: 1

(SHEET 1 of 1)

1.1 2015 Monitoring Criteria

Pipeline monitoring criteria is designed to comply with the Alpine Pipelines Surveillance and Monitoring Program (CPAI 2008).

1.1.1 Data Collection

The following data were collected in 2015:

- Photographs of each crossing location;
- Evaluation of the condition of VSMs, including measured tilt and observable settling, scouring, or jacking with particular attention paid to the following:
    - Miluveach River – VSM Nos. 2047 A/B and 2048 A/B and other VSMs within 15 feet of the channel
    - Kachemach River – VSM Nos. 1714 and 1715 A/B and other VSMs within 15 feet of the channel;
- Evaluation of bank erosion at the HDD crossing at least 50 feet upstream and downstream from the nominal pipe size (NPS) 14 oil pipeline;
- Survey of the top and bottom bank elevations and identification of locations of bank caving at the HDD crossing (LCMF);
- Topographic survey from the Colville River bank to the HDD east pad to document bank and ground stability (LCMF);
- Measurement of depth and width of scour around VSMs in the Kachemach and Miluveach river channels; and
- Observation of localized scour near all river crossings.

1.1.2 Physical Conditions Evaluated

The following physical conditions were evaluated during the site visits:

- Obstructions, ice dams, new river channels, or changes in flow in the channels;
- Signs of flooding threatening a facility or pipeline, or where water could not be diverted and there was:
    - Evidence of water concentrated longitudinally on or along the pipeline centerline
    - Gullying that threatened the buried pipeline at the HDD crossing;
- Soil pressure ridges parallel to the pipe axis exceeding 1 foot in height and 60 feet in length;
- Ponding extending over the pipe axis deeper than 1 foot and more than 100 feet in length;
- Soil disturbances (cracks) located within 10 feet of the HDD pipeline centerlines at least 10 feet in length with vertical displacement exceeding 6 inches, or wider than 2 inches parallel to the pipe axis and longer than 60 feet;
- Depressions occurring longitudinally over the pipe axis deeper than 1 foot and more than 100 feet in length;
- Evidence of potential pipeline leaks;
- Presence or absence of erosion of the HDD facility gravel pads; and
- Evidence of any settlement and jacking of the HDD building foundation (LCMF).

2.0 METHODS

Observations and photographs were collected at the pipeline crossing locations on the Kachemach River, Miluveach River, and HDD crossing of the Colville River East Channel during the 2015 spring breakup field work. On August 25, 2015, Michael Baker personnel documented visual observations and VSM tilt measurements at the three river crossings. Channels were clear of ice and snow allowing full access to the channels and pipeline. Visual observations were made at the HDD crossing beginning from where the pipeline casings enter the ground and extending to the riverbanks. Observations at the Kachemach and Miluveach rivers were conducted along the pipeline stream crossings to 15 feet outside the active channel banks on each side. The observations extended upstream and downstream several hundred feet on both banks. In addition to visual observations, aerial and ground photographs were taken and are provided in Appendix A. Observations and measurements were compared to established design criteria. The methodology is designed to comply with the Alpine Pipelines Surveillance and Monitoring Program (CPAI 2008).

2.1 BANK EROSION

LCMF surveyed the local topography at the HDD crossing in August 2015. LCMF incorporated the data into figures and provided a tabulation of historical migration since 2001 for each bank. This is available in Appendix B for HDD West and Appendix C for HDD East. Arbitrary survey control points serve as the origin for the baseline stationing, beginning at 100 feet from the pipeline along each bank, and establish a means of comparing annual measurements. The HDD West top of bank setback allows for 105 feet of bank erosion, and the HDD East top of bank setback allows for 115 feet of bank erosion (Michael Baker 2003b).

2.2 VSM TILT

A Stabila Type 196-2 magnetic, electronic carpenter's level with a digital read-out was used to measure the tilt of the VSMs located at the three river crossings (four monitoring locations) and within 15 feet from the river banks. Traditionally a plumb bob and pocket rod tape measure were used to measure the tilt. The electronic level improves the repeatability and reproducibility of measurements. Prior to the field measurements, the electronic level was calibrated to the manufacturer specifications. The calibration was verified by taking a reading on a surface then rotating the level 180° in the same plane to confirm the measurement. The electronic level was carefully positioned on the VSM to avoid reflective tape, welds, and fasteners that would impact the tilt measurements. Comparisons between the electronic level and the plumb bob method were performed at select locations for quality control purposes. The results of the comparisons are presented in Table 1. The plumb bob and pocket rod tape measure were used to measure the tilt of three VSMs (at HDD West) where various fasteners on the VSM interfered with the placement of the electronic level.

Table 1: Electronic Level and Plumb Bob Method Comparison Results

Monitoring Location	VSM	Method	Tilt (ft/ft)	
HDD West	788	Level	0.0004 N	0.0029 E
		Plumb Bob	0.0013 N	0.0029 E
		Difference	**0.0008**	**0.0000**
HDD East	883	Level	0.0010 S	0.0006 W
		Plumb Bob	0.0010 S	0.0004 E
		Difference	**0.0000**	**0.0010**
Kachemach River	1714A	Level	0.0075 S	0.0123 E
		Plumb Bob	0.0063 S	0.0129 E
		Difference	**0.0012**	**0.0006**
Miluveach River	2048B	Level	0.0052 S	0.0084 E
		Plumb Bob	0.0035 S	0.0077 E
		Difference	**0.0017**	**0.0007**

Tilt was measured perpendicular to the pipeline (north [N]/south [S]) and parallel to the pipeline (east [E]/west [W]). The tilt of each VSM was documented by recording the digital level read-out in inches per vertical foot (in/ft) and converting to feet per vertical foot (ft/ft) or measuring the horizontal distance from the plumb bob in feet per vertical foot (ft/ft). The accuracy of the level method is ± 0.0008 ft/ft and rounded to ± 0.001 ft/ft, the accuracy of the plumb bob method is ± 0.001 ft/ft. Approximate conversions between ft/ft and inches per vertical foot are provided in Table 2.

The 2010 CPAI North Slope Foundation Design Specification (CPAI 2010) states that under sustained loads, "VSM pipe supports shall be limited to $\Delta v/l = 0.015$ and Δv =1-inch max." Where Δv equals the horizontal deflection and l equals the vertical distance.

Taking into consideration the accuracy of the measurement method and the design specifications, the VSM axis was considered plumb and within tolerance if the tilt was measured to be less than or equal to 0.015 ± 0.001 ft/ft. Any calculations that were determined to be less than the survey accuracy are reported as such (<0.001 ft/ft).

Table 2: VSM Tilt Unit Conversion (rounded to nearest thousandth)

Inches of deflection per 10 feet	ft/ft	Slope
1/8	***0.001****	***1:1000***
1/4	0.002	1:500
1/2	0.004	1:250
3/4	0.006	1:160
1	0.008	1:125
1-1/4	0.010	1:100
1-1/2	0.013	1:77
1-3/4	***0.015****	***1:66.6***
2	0.017	1:58
Notes: * *Survey Tolerance* ** *Project Tolerance*		

2.3 VSM Scour

Streambed scour in the Miluveach and Kachemach rivers was evaluated using visual methods at each in-stream VSM. Scour is measured either at the VSM, or if a casing is present, in the inside and outside of the casing. As presented in the *Mechanical Analysis of Aboveground Pipeline and Aboveground River Crossings* (Michael Baker 2003c), the VSMs within the floodplain of the Kachemach and Miluveach river crossings were designed to withstand both local pier scour and channel scour during a 200-year flood. Scour limits for VSMs located in the floodplain and in the active channel are shown in Table 3. These values include both local pier scour and anticipated channel scour.

Table 3: VSM Design Scour Limits

River Crossing	Minimum Scour Hole Elevations (feet – BPMSL)	
	Floodplain	Main Channel
Kachemach	9.5	6.9
Miluveach	36.7	35.1

2.4 Foundation Settlement and Jacking (HDD West)

LCMF surveyed the elevation of the HDD building foundation piles (bottom of pile cap) and developed tabulations of historical elevations for each pile. Data presented in the 2008 monitoring report (Michael Baker 2008) reflected an adjustment to the vertical datum at HDD West of -0.35 feet, which was made to reflect actual elevations based on differential levels carried by LCMF from CD1 (Alpine) in August 2007. According to LCMF, this adjustment was eliminated to avoid confusion about elevation values. Therefore, the values for each pile cap as presented in Appendix B reflect the original datum.

2.5 Polygon Trough Subsidence (HDD East)

As in past years, a polygon trough located between the Colville River and the HDD East gravel pad was also monitored for subsidence. Historical profiles and tabulated elevations of selected cross sections over the length of the trough are presented in Appendix B.

3.0 2015 RESULTS

3.1 HDD WEST BANK

The west bank of the Colville River HDD crossing was evaluated by visual observation using ground and aerial photography (Appendix A.1) and field and topographic surveys. The 2015 Colville River spring breakup floodwaters reached, but did not overtop the west bank of the channel.

3.1.1 BANK AND PAD EROSION

The greatest amount of bank erosion observed between the 2014 and 2015 pipeline monitoring events along the HDD West bank was 12.3 feet occurring at Station (STA) 1+75, approximately 75 feet upstream (south) of the NPS 14 oil pipeline centerline (STA 2+50) as identified on the LCMF topographic survey (Appendix B).

Between April 2002 and August 2015, a maximum cumulative erosion of 18.7 feet along the top of the bank was measured at STA 3+70, approximately 120 feet downstream (north) of the NPS 14 oil pipeline centerline (STA 2+50). There was no change in the maximum cumulative erosion values at this station between 2014 and 2015. The average rate of erosion at STA 3+70 is 1.4 feet per year (ft/yr) over the monitoring period. This is a decrease in the average erosion rate of 1.6 ft/yr in 2014 (Michael Baker 2014).

The average rate of erosion for the 2014-2015 monitoring period, as measured along the entire 440-foot top of bank, is approximately 3.6 ft/yr. This value averages both erosion and deposition. The 2014-2015 average rate of erosion is greater than the observed long-term historic average rate of 0.6 ft/yr, and greater than the estimated maximum erosion rate used for design of 2.3 ft/yr (Michael Baker 2003b). A graphic and tabular summary of the LCMF survey results for the HDD West crossing is presented in Appendix B.

In 1997, Michael Baker established a survey control point at the centerline of the NPS 14 oil pipeline (STA 2+50), as shown on HDD Bank Erosion Monitoring drawing CE-CP00-143, provided in Appendix B. Based on a comparison of the 1997 survey control point to the 2015 LCMF survey data, approximately 12 feet of bank erosion has occurred over the 18-year period (0.7 ft/yr) and is a 3 foot increase in bank erosion since 2014. As of 2015, the observed bank erosion at this location comprises approximately 11.4% of the total 105-foot design setback. The west bank erosion has not reached the 50% design setback. If in the future, the bank "migrates 50% of the design setback, erosion rates or possible mitigation measures will be evaluated" (Michael Baker 2003c).

Channel morphology and flow direction within the channel remains largely unchanged. The pipelines appeared to be in stable condition with no visual indication of leaks.

3.1.2 VSM TILT

The VSMs investigated near HDD West are adequately supporting the pipeline. All six VSMs adjacent to the HDD West pad and crossing were plumb and within project tolerance based on tilt measurements and project method accuracy. A summary of the 2015 HDD West bank VSM tilt survey results are presented in Table 4.

Table 4: HDD West VSM Tilt Measurement 2015 Results

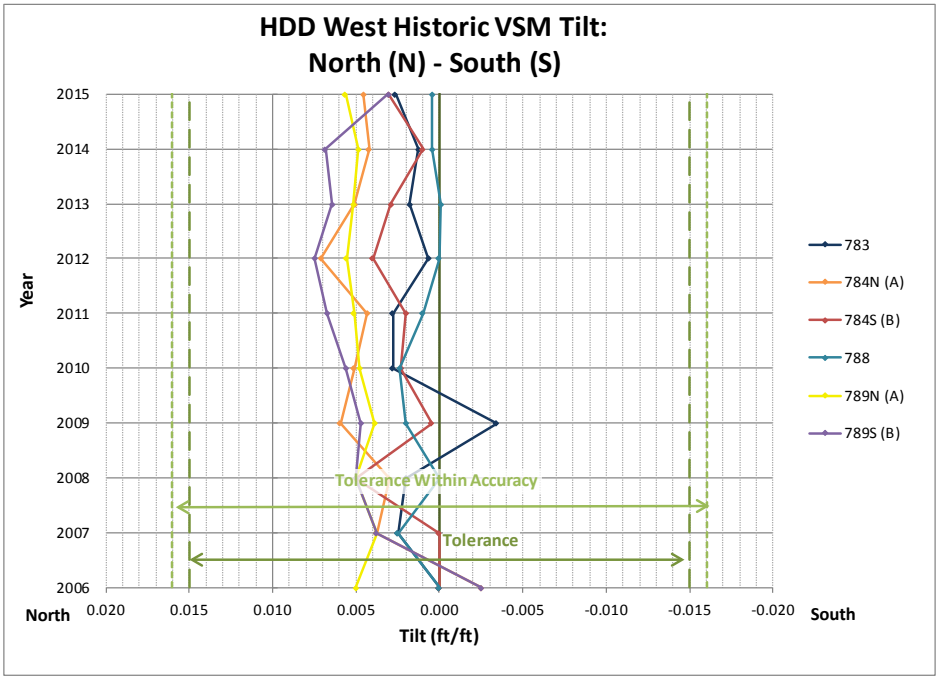
HDD West VSM Number	Tilt Measurement Orientation (ft/ft)		Comment
	North/South	East/West	
783	0.0027 N	<0.001	Plumb
784A	0.0046 N	<0.001	Plumb
784B	0.0031 N	0.0039 W	Plumb
788	<0.001	0.0029 E	Plumb
789A	0.0056 N	<0.001	Plumb
789B	0.0031 N	<0.001	Plumb

Table 5 presents the change in tilt measurements collected between the 2014 (Michael Baker 2014) and 2015 monitoring events.

Table 5: HDD West VSM Change in Tilt, 2014-2015

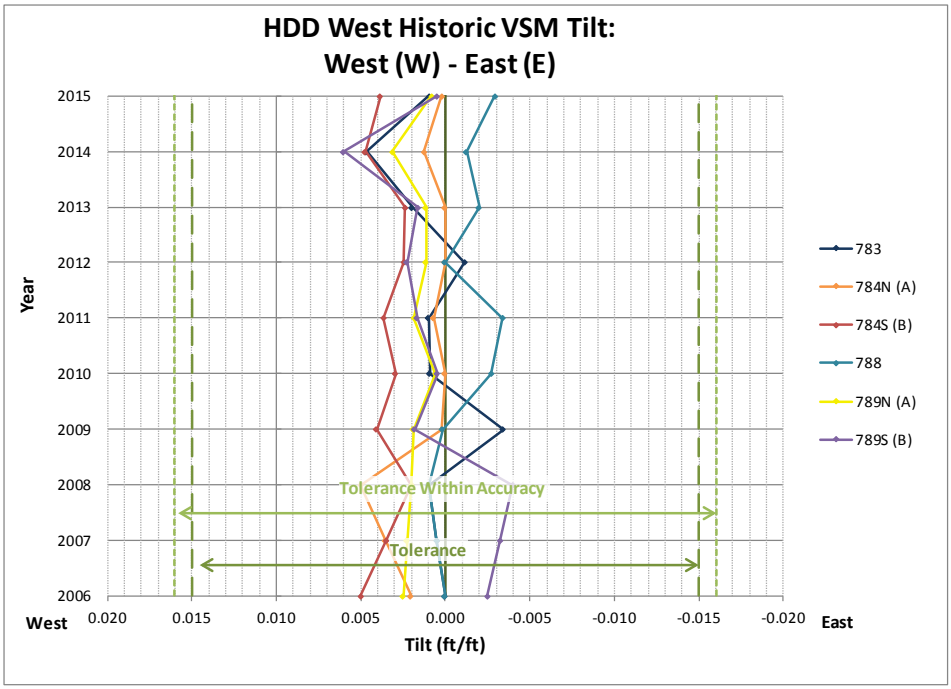
HDD West VSM Number	Change in Tilt Measurement Orientation (ft/ft)	
	North/South	East/West
783	0.0014 N	0.0037 E
784A	<0.001	0.0011 E
784B	0.0021 N	<0.001
788	<0.001	0.0017 E
789A	<0.001	0.0023 E
789B	0.0038 S	0.0056 E

Graph 1 and Graph 2 present the historical VSM change in tilt by orientation between 2006 and 2015 (Michael Baker 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, and 2014).



Notes:
1. Positive tilt indicates north (N), negative tilt indicates south (S)
2. Project tilt tolerance for VSM is +/- 0.015 ft/ft.
3. Survey accuracy of this project is +/-0.001 ft/ft.
4. Historical tilt directions were corrected based on review of all past measurements; the magnitude remains unchanged.
5. The tilt in 2015 was measured with an electronic level except at VSMs 783, 784S (B), and 789S (B) where a plumb bob was utilized.

Graph 1: HDD West VSM Historical Change in Tilt, North/South



Notes:
1. Positive tilt indicates west (W), negative tilt indicates east (E)
2. Project tilt tolerance for VSM is +/- 0.015 ft/ft.
3. Survey accuracy of this project is +/-0.001 ft/ft.
4. Historical tilt directions were corrected based on review of all past measurements; the magnitude remains unchanged.
5. The tilt in 2015 was measured with an electronic level except at VSMs 783, 784S (B), and 789S (B) where a plumb bob was utilized.

Graph 2: HDD West VSM Historical Change in Tilt, West/East

3.1.3 Foundation Pile Cap Survey

LCMF has conducted pile cap elevation surveys annually since 2004. Based on the surveys, no single pile cap has experienced a cumulative change of more than 0.046 feet of movement vertically over the 11-year span. The average cumulative change is 0.029 feet vertically over the 11-year span. The maximum incremental change from the 2014 to the 2015 survey is 0.009 feet vertically. A summary of the LCMF survey results for the HDD West bank is presented in Appendix B.

3.2 HDD East Bank

The east bank of the Colville River HDD crossing was evaluated by visual observation using ground and aerial photography (Appendix A.2) and field and topographic surveys. The 2015 Colville River spring breakup floodwaters overtopped and fully inundated the east bank of the Colville River HDD crossing.

3.2.1 Bank and Pad Erosion

The greatest bank erosion observed between the 2014 and 2015 pipeline monitoring events along the HDD East bank was 17.4 feet occurring at STA 3+45, approximately 65 feet downstream (north) of the NPS 14 oil pipeline centerline (STA 2+80) as identified on the LCMF topographic survey (Appendix C).

Between August 2001 and August 2015, a maximum cumulative erosion of 39.3 feet along the top of the bank was measured at STA 2+90, approximately 10 feet downstream (north) of the NPS 14 oil pipeline centerline (STA 2+80). There was no change in the maximum cumulative erosion values at this station between 2014 and 2015. The average rate of erosion at STA 2+90 is 2.8 feet per year (ft/yr) over the monitoring period. This is a decrease in the average erosion rate of 3.0 ft/yr in 2014 (Michael Baker 2014).

The average rate of erosion for the 2014-2015 monitoring period, as measured along the entire 450-foot top of bank, is approximately 1.7 ft/yr. This value averages both erosion and deposition. The 2014-2015 average rate of erosion is greater than the observed long-term historical average rate of 1.1 ft/yr, and less than the estimated maximum design erosion rate of 2.5 ft/yr (Michael Baker 2003b). A graphic and tabular summary of the LCMF surveying results for the HDD East Bank crossing is presented in Appendix C**.**

In 1997, Michael Baker established a survey control point at the centerline of the NPS 14 oil pipeline (STA 2+80), as shown on the HDD Bank Erosion Topo/Monitoring drawing CE-CP00-134, provided in Appendix C. Based on a comparison of the 1997 survey control point to the 2015 LCMF survey data, approximately 18 feet of bank erosion has occurred over the 18-year period (1.0 ft/yr) and is a 4 foot increase in bank erosion since 2014. As of 2015, the observed bank erosion at this location comprises 15.7% of the 115-foot design setback. The east bank erosion has not reached the 50% design setback. If in the future, the bank "migrates 50% of the design setback, erosion rates or possible mitigation measures will be evaluated" (Michael Baker 2003c).

Additional erosion and sloughing continues along the east bank north of the NPS 14 oil pipeline and at the polygon trough near the NPS 12 seawater pipeline. In 2001, sandbags and Styrofoam were installed in the bank to reduce melting ice lenses and combat further erosion. Exposed sandbags and

Styrofoam were evident at the toe of the polygon trough, similar to site conditions encountered during the 2014 field visit.

The HDD East gravel pad did not sustain any visible erosion or sloughing from floodwater during the 2015 spring breakup. A depression, identified in past years, was observed on the gravel pad near the centerline of the NPS 14 oil pipeline (Appendix A.2). The depression measured approximately 10 feet in diameter and 1.5 feet in depth. The presence of gravel fill at the same position over the adjacent 18" seawater pipe was observed (Appendix A.2). Several thermosyphons near the channel sustained damage from ice impacts during the 2015 spring breakup and were observed listing (Appendix A.2). A plan has been prepared to repair the damaged thermosyphons. The damaged thermosyphons are not impacting the integrity of the pipeline. Overbank flooding also damaged several thermistors. The thermistors have since been repaired and tested for integrity.

Channel morphology and flow direction within the channel remains largely unchanged. The pipelines appeared to be in stable condition with no visual indication of leaks.

3.2.2 Polygon Trough Subsidence

In addition to bank erosion surveys, subsidence monitoring has been conducted since 2001 by LCMF at eight cross sections of the polygon trough west of the HDD East gravel pad (cross section A through cross section H). The cumulative subsidence measured at any of the cross sections was less than 3.8 feet. Maximum cumulative subsidence at cross section B was 3.7 feet. The maximum incremental change since 2014 was at cross section F with an increase of 1.3 feet. A graphic and tabular summary of these cross sections is provided in Appendix C, a photograph of the troughs is in Appendix A.2.

3.2.3 VSM Tilt

The VSMs investigated near HDD East are adequately supporting the pipeline. All five VSMs directly adjacent to the HDD East pad and crossing were plumb and within project tolerance based on tilt measurements and project method accuracy. A summary of the 2015 HDD East Bank VSM tilt survey results are presented in Table 6.

Table 6: HDD East VSM Tilt Measurement 2015 Results

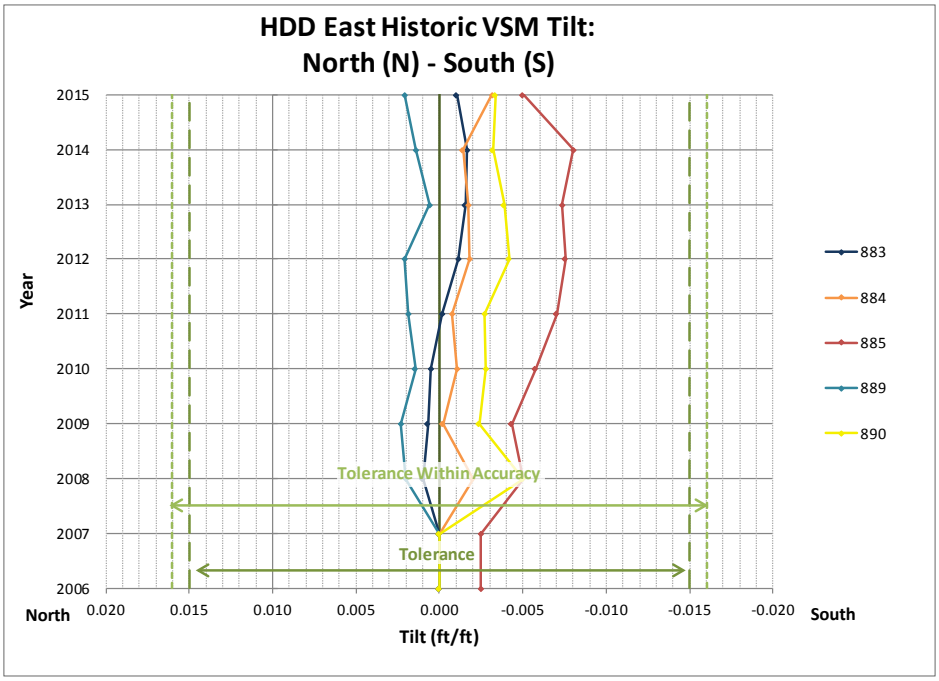
HDD East VSM Number	Tilt Measurement Orientation (ft/ft)		Comment
	North/South	East/West	
883	0.001 S	<0.001	Plumb
884	0.0032 S	0.0015 W	Plumb
885	0.005 S	0.0043 W	Plumb
889	0.0021 N	0.0013 E	Plumb
890	0.0034 S	<0.001	Plumb

Table 7 presents the difference in tilt measurements collected during the 2014 (Michael Baker 2014) and 2015 monitoring events.

Table 7: HDD East VSM Change in Tilt, 2014 to 2015

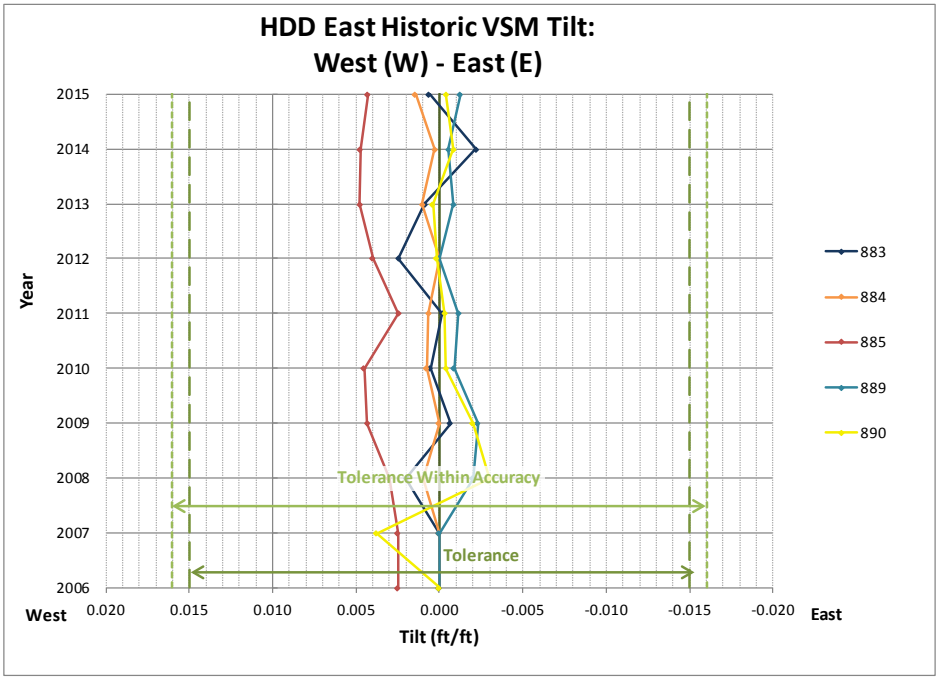
HDD East VSM Number	Change in Tilt Measurement Orientation (ft/ft)	
	North/South	East/West
883	<0.001	0.0028 W
884	0.0018 S	0.0012 W
885	0.003 N	<0.001
889	<0.001	<0.001
890	<0.001	<0.001

Graph 3 and Graph 4 present the historical VSM change in tilt by orientation between 2006 and 2015 (Michael Baker 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, and 2014).



Notes:
1. Positive tilt indicates north (N), negative tilt indicates south (S)
2. Project tilt tolerance for VSM is +/- 0.015 ft/ft.
3. Survey accuracy of this project is +/-0.001 ft/ft.
4. Historical tilt directions were corrected based on review of all past measurements; the magnitude remains unchanged.
5. The tilt in 2015 was measured with an electronic level.

Graph 3: HDD East VSM Historical Change in Tilt, North/South



Notes:
1. Positive tilt indicates west (W), negative tilt indicates east (E)
2. Project tilt tolerance for VSM is +/- 0.015 ft/ft.
3. Survey accuracy of this project is +/-0.001 ft/ft.
4. Historical tilt directions were corrected based on review of all past measurements; the magnitude remains unchanged.
5. The tilt in 2015 was measured with an electronic level.

Graph 4: HDD East VSM Historical Change in Tilt, West/East

3.3 KACHEMACH RIVER

The Kachemach River pipeline crossing was evaluated by visual observation, ground and aerial photography (Appendix A.3), and field surveys**.** At the time of the field visit, flow was observed across the entire gravel channel at the pipeline crossing location. The channel is approximately 75 feet wide with a maximum depth of approximately 2.5 feet. Spring breakup observations in 2015 suggest flow was confined to the active gravel bed channel and did not reach the overbank regions adjacent to the river crossing.

3.3.1 BANK EROSION

Based on visual observations, no bank erosion was evident at the crossing nor immediately upstream or downstream from the pipelines. Channel morphology and flow direction within the channel remains largely unchanged. The pipelines appeared to be in stable condition with no visual indication of leaks.

3.3.2 VSM TILT

The VSMs investigated near the Kachemach River crossing are adequately supporting the pipeline. All six of the VSMs located within the vicinity of the Kachemach River were plumb and within project tolerance based on tilt measurements and project method accuracy. A summary of the 2015 Kachemach River VSM tilt survey results are presented in Table 8.

The tilt of VSM 1715C (abandoned) was measured to be within project tolerance however, in previous years, the tilt exceeded the project tolerance, but not by more than the survey method accuracy.

Table 8: Kachemach River VSM Tilt Measurement 2015 Results

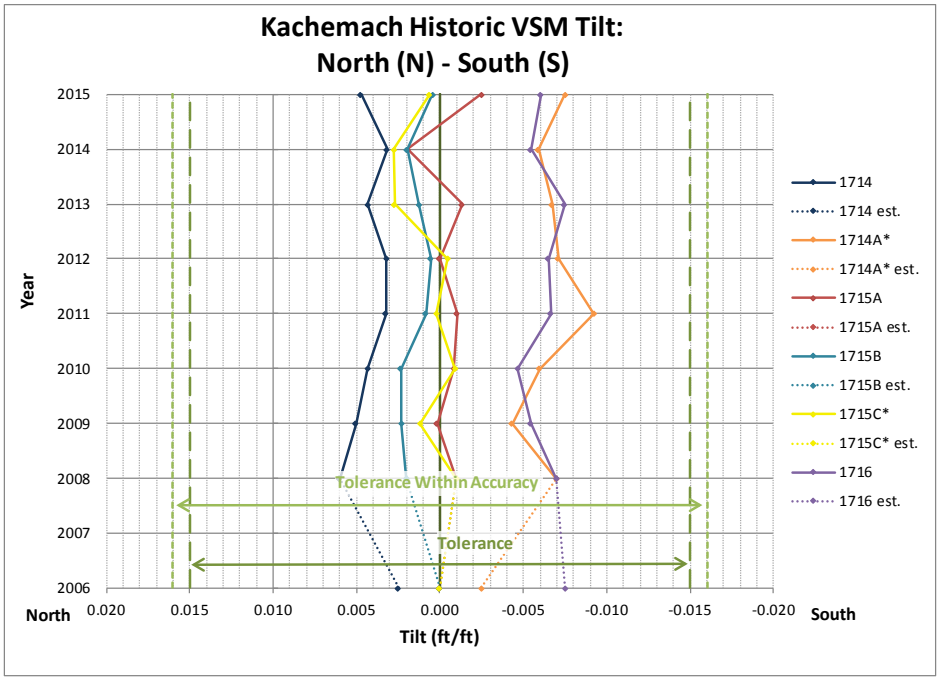
Kachemach VSM Number	Tilt Measurement Orientation (ft/ft)		Comment
	North/South	East/West	
1714	0.0047 N	0.0054 E	Plumb
1714A (Abandoned)	0.0075 S	0.0123 E	Plumb
1715A	0.0025 S	<0.001	Plumb
1715B	<0.001	0.0023 W	Plumb
1715C (Abandoned)	<0.001	0.0144 E	Plumb
1716	0.0061 S	0.0063 E	Plumb

Table 9 presents the difference in tilt measurements collected during the 2014 (Michael Baker 2014) and 2015 monitoring events.

Table 9: Kachemach River VSM Change in Tilt, 2014 to 2015

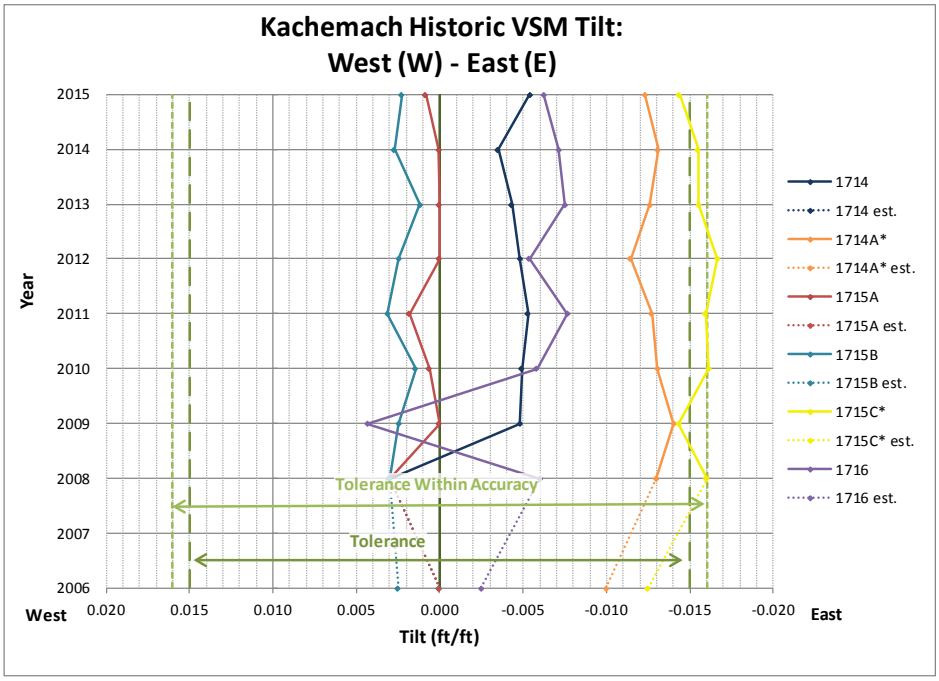
Kachemach VSM Number	Change in Tilt Measurement Orientation (ft/ft)	
	North/South	East/West
1714	0.0016 N	0.0019 E
1714A (Abandoned)	0.0016 S	<0.001
1715A	0.0044 S	<0.001
1715B	0.0015 S	<0.001
1715C (Abandoned)	0.0021 S	0.0011 W
1716	<0.001	<0.001

Graph 5 and Graph 6 present the historical VSM change in tilt by orientation between 2006 and 2015 (Michael Baker 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, and 2014).



Notes: 1. Positive tilt indicates north (N), negative tilt indicates south (S)
2. Tilt measurementes were not taken at this location in 2007; tilt is estimated between 2006 and 2008.
3. Project tilt tolerance for VSM is +/- 0.015 ft/ft.
4. Survey accuracy of this project is +/-0.001 ft/ft.
5. Historical tilt directions were corrected based on review of all past measurements; the magnitude remains unchanged.
6. The tilt in 2015 was measured with an electronic level.
* VSM 1714A and 1715C are abandoned.

Graph 5: Kachemach River VSM Historical Change in Tilt, North/South



Notes: 1. Positive tilt indicates west (W), negative tilt indicates east (E)
2. Tilt measurementes were not taken at this location in 2007; tilt is estimated between 2006 and 2008.
3. Project tilt tolerance for VSM is +/- 0.015 ft/ft.
4. Survey accuracy of this project is +/-0.001 ft/ft.
5. Historical tilt directions were corrected based on review of all past measurements; the magnitude remains unchanged.
6. The tilt in 2015 was measured with an electronic level.
* VSM 1714A and 1715C are abandoned.

Graph 6: Kachemach River VSM Historical Change in Tilt, West/East

3.3.3 VSM Scour

Visual observations and measurements were collected to evaluate scour for the VSMs located within the active Kachemach River channel. VSM 1715A and 1715B have permanent steel casings installed as a countermeasure to control local scour. The observed depth of scour on the inside of the casing was less than on the outside at both VSMs. No excessive scour was observed at the base of any VSM located within the channel or nearby floodplain. The design scour limit for the main channel of the Kachemach River is 6.9 feet British Petroleum Mean Sea Level (BPMSL) (Michael Baker 2003c). No quantitative scour survey was conducted during this monitoring cycle. The last topographic scour survey was conducted by LCMF in 2004 (Michael Baker 2004). Table 10 contains observed scour conditions during the 2015 field visit. Ground depressions observed at the base of VSM 1714, 1715C and 1716 are likely the result of consolidated backfill material and are not attributed to hydraulic events.

Table 10: Kachemach River 2015 VSM Scour

VSM	Location Description	Depth of Scour	Notes
1714	Grassy floodplain	1.9 feet below adjacent ground	A ground depression at the base of the VSM is approximately 3.0 feet in diameter
1714A	Channel	2.6 feet below water surface	Abandoned VSM
1715A	Channel	2.7 feet below water surface in casing; 4.2 feet below water surface out of casing	Scour hole measured on upstream side
1715B	Channel	3.1 feet below water surface in casing; 4.4 feet below water surface out of casing	Scour hole measured on upstream side
1715C	Grassy floodplain	1.3 feet below adjacent ground	Abandoned VSM. Ground depression at the base of the VSM is approximately 1.5 feet in diameter
1716	Grassy floodplain	1.1 feet below adjacent ground	A ground depression at the base of the VSM is approximately 2 feet in diameter.

3.4 Miluveach River

The Miluveach River crossing was evaluated by visual observation, review of ground and aerial photography (Appendix A.4), and field surveys. At the time of the field visit, flow upstream of the pipeline crossing was observed across the entire channel. Downstream of the pipeline crossing, flow was split by a gravel bar, with the majority of the flow being conveyed on the left (west) side of the channel. The channel is approximately 90 feet wide with a maximum depth of approximately 1.5 feet. Spring breakup observations in 2015 suggest flow reached the overbank region adjacent to the river crossing on the east side of the channel.

3.4.1 Bank Erosion

Based on visual observations, no bank erosion was evident at the crossing nor immediately upstream or downstream from the pipelines. Channel morphology and flow direction within the channel

remains largely unchanged. The pipelines appeared to be in stable condition with no visual indication of leaks.

3.4.2 VSM TILT

The VSMs investigated near the Miluveach River crossing are adequately supporting the pipeline. All four of the VSMs within the vicinity of the Miluveach River were plumb and within project tolerance based on tilt measurements and project method accuracy. A summary of the 2015 Miluveach River VSM tilt survey results are presented in Table 11.

Table 11: Miluveach River VSM Tilt Measurement 2015 Results

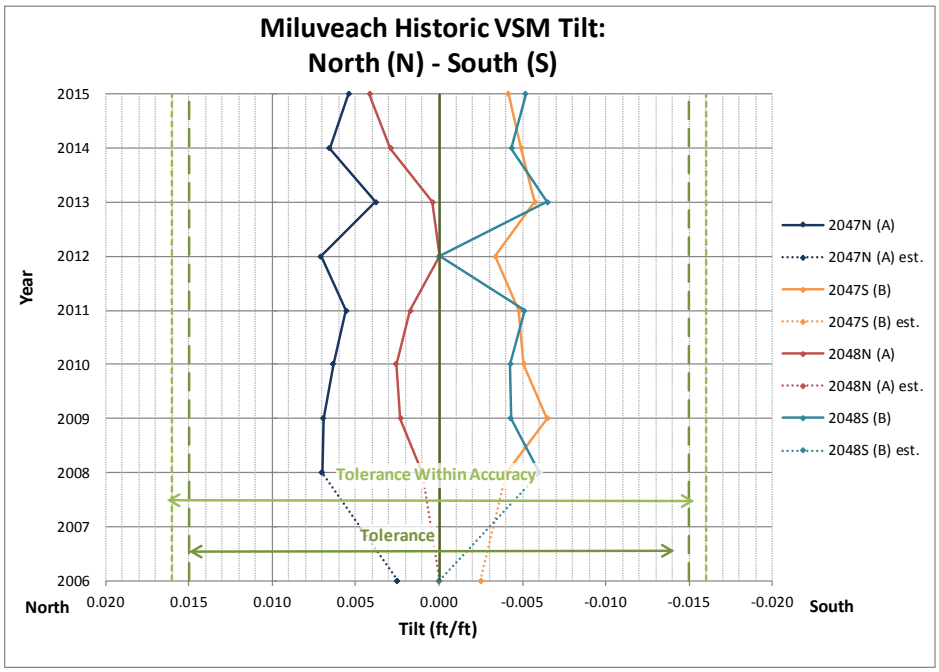
Miluveach VSM Number	Tilt Measurement Orientation (ft/ft)		Comment
	North/South	East/West	
2047A	0.0054 N	0.0038 E	Plumb
2047B	0.0042 S	0.0021 E	Plumb
2048A	0.0042 N	0.0042 W	Plumb
2048B	0.0052 S	0.0084 E	Plumb

Table 12 presents the difference in tilt measurements collected during the 2014 (Michael Baker 2014) and 2015 monitoring events.

Table 12: Miluveach River VSM Change in Tilt from 2014 to 2015

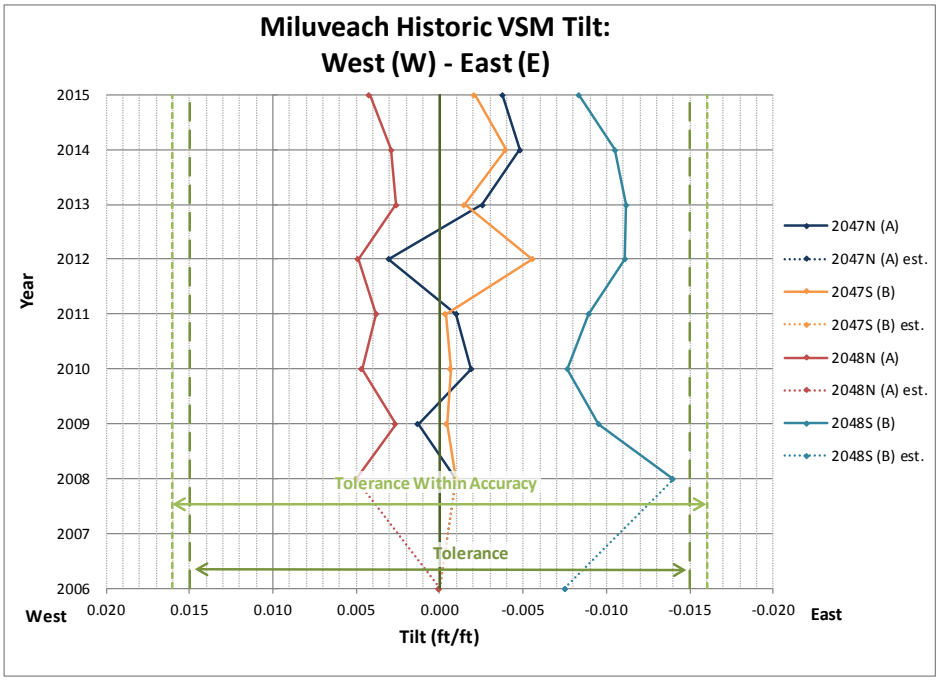
Miluveach VSM Number	Change in Tilt Measurement Orientation (ft/ft)	
	North/South	East/West
2047A	0.0011 S	0.0011 W
2047B	<0.001	0.0019 W
2048A	0.0013 N	0.0013 W
2048B	<0.001	0.0022 W

Graph 7 and Graph 8 present the historical VSM change in tilt by orientation between 2006 and 2015 (Michael Baker 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, and 2014).



Notes: 1. Positive tilt indicates north (N), negative tilt indicates south (S)
2. Tilt measurementes were not taken at this location in 2007; tilt is estimated between 2006 and 2008.
3. Project tilt tolerance for VSM is +/- 0.015 ft/ft.
4. Survey accuracy of this project is +/-0.001 ft/ft.
5. Historical tilt directions were corrected based on review of all past measurements; the magnitude remains unchanged.
6. The tilt in 2015 was measured with an electronic level.

Graph 7: Miluveach River VSM Historical Change in Tilt, North/South



Notes: 1. Positive tilt indicates west (W), negative tilt indicates east (E)
2. Tilt measurementes were not taken at this location in 2007; tilt is estimated between 2006 and 2008.
3. Project tilt tolerance for VSM is +/- 0.015 ft/ft.
4. Survey accuracy of this project is +/-0.001 ft/ft.
5. Historical tilt directions were corrected based on review of all past measurements; the magnitude remains unchanged.
6. The tilt in 2015 was measured with an electronic level.

Graph 8: Miluveach River VSM Historical Change in Tilt, West/East

3.4.3 VSM Scour

Visual observations and measurements were collected to evaluate scour for the VSMs located within the active Miluveach River channel. No excessive scour was observed at the base of any VSMs located within the channel or nearby floodplain. The design scour limit for the main channel of the Miluveach River is 35.1 feet BPMSL (Michael Baker 2003c). No quantitative survey was conducted during this monitoring cycle. The last topographic scour survey was conducted by LCMF in 2004 (Michael Baker 2004). Table 13 contains observed scour conditions during the 2015 field visit.

Table 13: Miluveach River 2015 VSM Scour

VSM	Location Description	Depth of Scour Hole	Notes
2047N (A)	Grassy Mud – Bank/Channel Interface	0.4 feet below water surface	Scour hole measured on upstream side
2047S (B)	Grassy Mud – Bank/Channel Interface	No scour hole	
2048N (A)	Channel	0.8 feet below water surface	Scour hole measured on upstream side
2048S (B)	Channel	1.2 feet below water surface	Scour hole measured on upstream side

4.0 CONCLUSION

The 2015 Colville River spring breakup flood reached the west bank and overtopped the east bank at the HDD crossing of the Colville River East Channel. At the HDD East and HDD West crossing sites, natural erosion continues along the banks and was noted to be within design estimates and not negatively impacting the integrity of the pipeline. In general, the banks at the HDD East and West pipeline crossing sites experienced more erosion in 2015 than 2014 and average erosion rates for the 2014-2015 monitoring period were greater than the long time historic rates. As of 2015, the observed bank erosion at the center of the NPS 14 oil pipeline at HDD East and HDD West comprised approximately 15.7% and 11.4% of the 115-foot and 105-foot design setbacks, respectively. Annual monitoring of the HDD East and HDD West crossing sites will continue to evaluate erosion rates and possible mitigation measures should the banks migrate beyond 50% of the design setbacks.Spring breakup observations in 2015 suggest flow was confined within the channel banks at the Kachemach River crossing and overtopped the banks at the Miluveach River crossing. No excessive erosion or scour occurred at the Kachemach River or Miluveach River crossings based on visual observations.

The pipelines appeared to be in stable condition with no visual indication of leaks. No ponding, cracks, or pressure ridges were evident over the pipeline axis as defined by the monitoring criteria. All monitored VSMs are considered plumb and within project tolerance. For all monitored VSMs, tilt has fluctuated annually, generally with consistency of direction. Based on visual observations, measurements, and field survey results, settling or jacking of the VSMs was not apparent.

5.0 REFERENCES

ConocoPhillips Alaska, Inc. (CPAI). 2010. Foundation Design Specification. SPC-SS-NS-80502. December 2010.

—— 2008. Alpine Pipelines Surveillance and Monitoring Program. Alpine Oil Pipeline ADL 415701, Alpine Utility Pipeline ADL415857, Alpine Diesel Pipeline ADL 415932. Edition 1, Revision 0. February 2008.

Michael Baker International (Michael Baker). 2014. 2014 Alpine Pipeline River Crossing Monitoring Report. Prepared for ConocoPhillips Alaska. 141674-MBJ-RPT-001. September 2014.

—— 2013. 2013 Alpine Pipeline River Crossing Monitoring Report. Prepared for ConocoPhillips Alaska. 135894-MBJ-RPT-001. September 2013.

—— 2012. 2012 Alpine Pipeline River Crossing Monitoring Report. Prepared for ConocoPhillips Alaska. 128228-MBJ-RPT-001. December 2012.

—— 2011. Alpine Pipeline River Crossings 2011 Monitoring Report. Prepared for ConocoPhillips Alaska. 123744-MBJ-RPT-001. September 2011.

—— 2010. Alpine Pipeline River Crossings 2010 Monitoring Report. Prepared for ConocoPhillips Alaska. 120259-MBJ-RPT-001. September 2010.

—— 2009. Alpine Pipeline River Crossings 2009 Monitoring Report. Prepared for ConocoPhillips Alaska. 117009-MBJ-RPT-001. September 2009.

—— 2008. Alpine Pipeline HDD Crossing 2008 Monitoring Report. Prepared for ConocoPhillips Alaska. 114133-MBJ-RPT-001. October 2008.

—— 2007. Alpine Pipeline HDD Crossing 2007 Monitoring Report. Prepared for ConocoPhillips Alaska. 111620-MBJ-RPT-001. October 2007.

—— 2006. Alpine Pipeline River Crossings 2006 Monitoring Report. Prepared for ConocoPhillips Alaska. 108710-MBJ-RPT-001. October 2006.

—— 2005. Alpine Pipeline River Crossing Monitoring. Prepared for ConocoPhillips Alaska. 105758-MBJ-001. October 2005.

—— 2004. Alpine Pipeline River Crossing Monitoring. Prepared for ConocoPhillips Alaska. 103654-MBJ-001. October 2004.

—— 2003a. 2003 Alpine Pipeline River Crossing Monitoring. Prepared for ConocoPhillips Alaska. 101376-MBJ-001. July 2003.

—— 2003b. Alpine Development. Colville River Crossing Design Report. Prepared for Arco Alaska Inc. 23100-MBJ-RP-003. June 1997. Rev. 5. 2003.

—— 2003c. Mechanical Analysis of Aboveground Pipeline & Aboveground River Crossings. Prepared for ARCO Alaska Inc. 23100-MBJ-RP-001. October 1997. Rev 7. 2003.

—— 2002. HDD Transition Zones Civil Surveillance Trip Report – 2001. Prepared for Phillips Alaska Inc. 25114-217-MBJ-001. January 2002.

Appendix A Site Photos

A.1 HDD West Bank

Photo A.1: HDD West pre-breakup, looking northwest; May 17, 2015

Photo A.2: HDD West pre-breakup, looking southeast; May 17, 2015

Photo A.3: HDD West during breakup, looking southeast; May 18, 2015

Photo A.4: HDD West during breakup, looking southeast; May 18, 2015

Photo A.5: HDD West during breakup, looking west; May 18, 2015

Photo A.6: HDD West during breakup, looking north; May 19, 2015

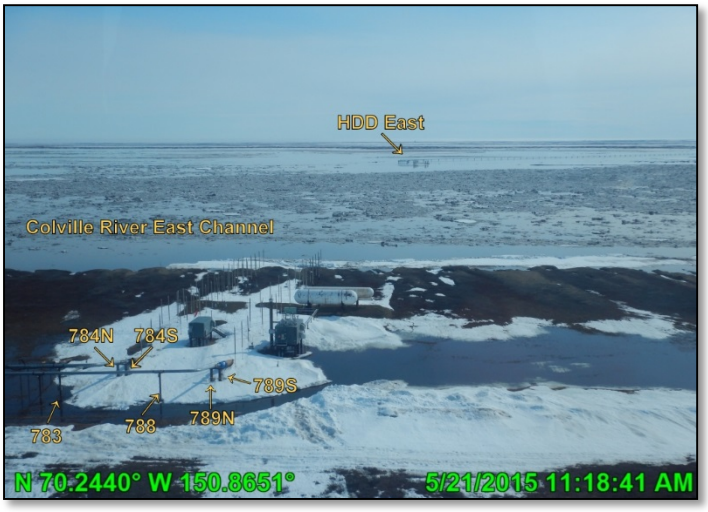


Photo A.7: HDD West during breakup, looking east; May 21, 2015

Photo A.8: HDD West bank post breakup, looking south; August 25, 2015

Photo A.9: HDD West pipeline entrance, looking south; August 25, 2015

Photo A.10: HDD West pipeline entrance, looking southeast; August 25, 2015

Photo A.11: HDD West bank post breakup, looking north (downstream); August 25, 2015

Photo A.12: HDD West bank post breakup, looking south (upstream); August 25, 2015

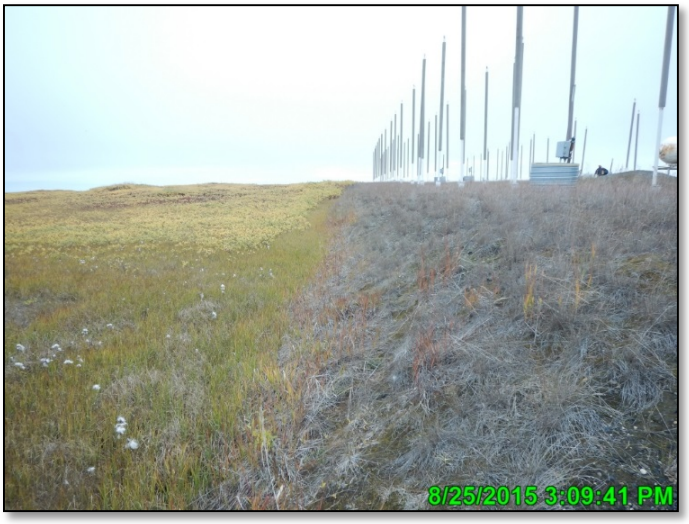


Photo A.13: HDD West north side of gravel pad, looking east; August 25, 2015

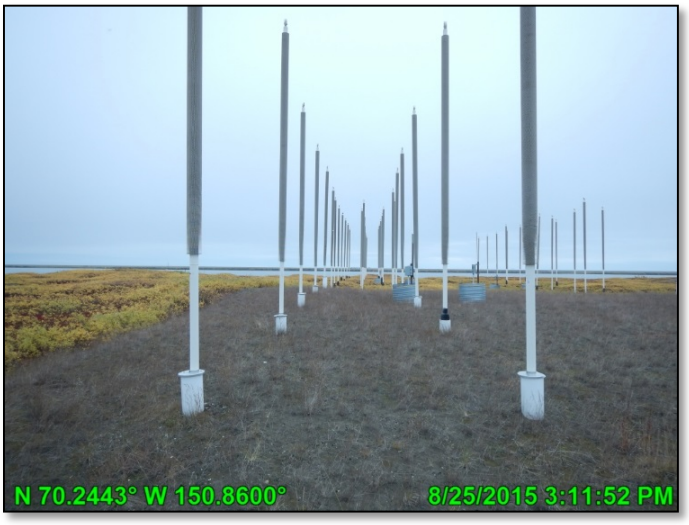


Photo A.14: HDD West north side of gravel pad, looking east; August 25, 2015

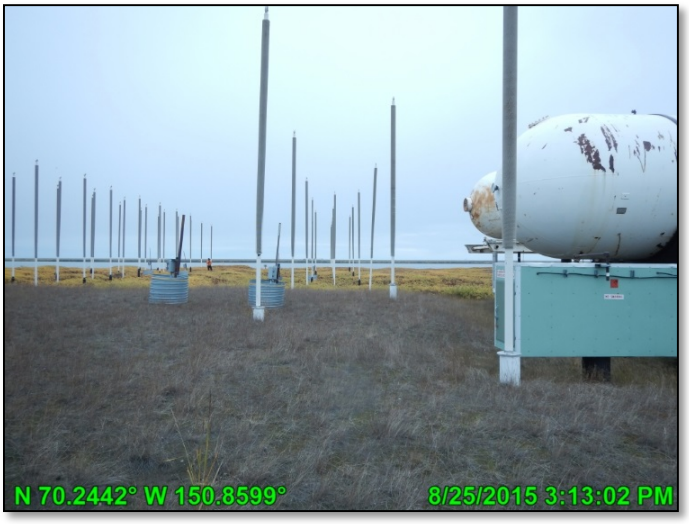


Photo A.15: HDD West south side of gravel pad, looking east; August 25, 2015

A.2 HDD East Bank

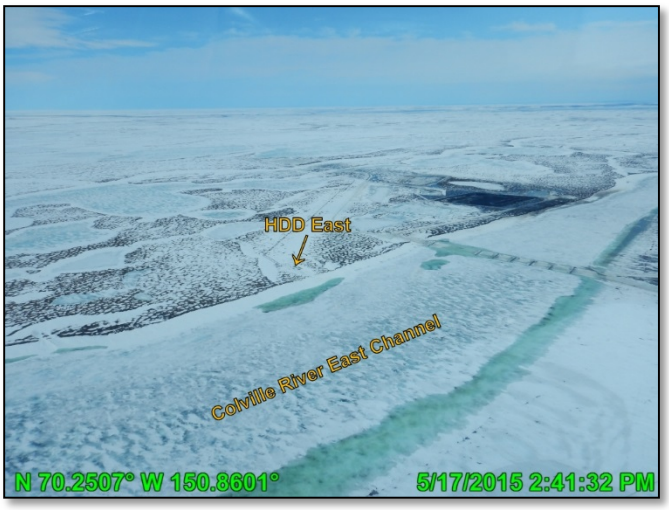


Photo A.16: HDD East pre-breakup, looking southeast; May 17, 2015

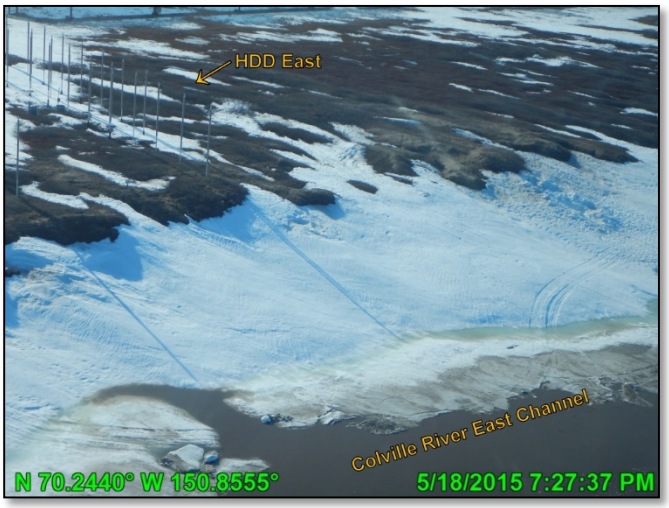


Photo A.17: HDD East during breakup, looking southeast; May 18, 2015

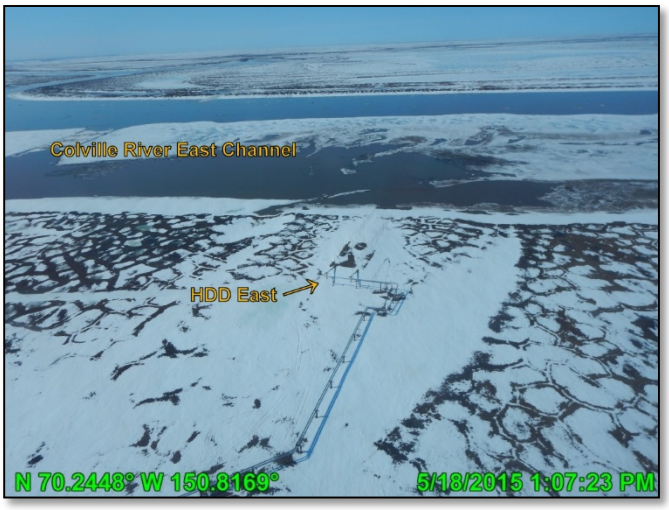


Photo A.18: HDD East during breakup, looking southwest; May 18, 2015

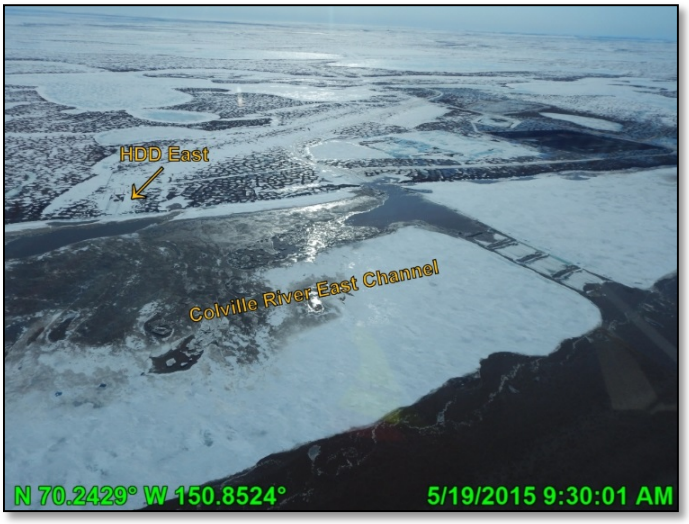


Photo A.19: HDD East during breakup, looking southeast; May 19, 2015

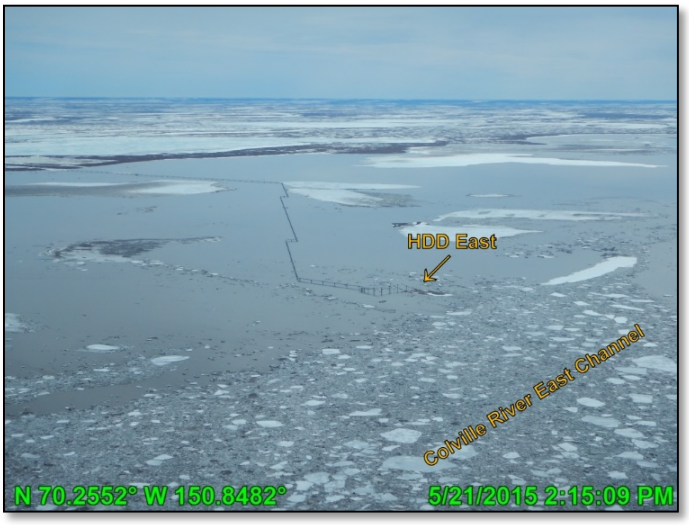


Photo A.20: HDD East during breakup, looking southeast; May 21, 2015

Photo A.21: HDD East during breakup, looking northeast; May 22, 2015

Photo A.22: HDD East post breakup, looking northeast; August 25, 2015

Photo A.23: HDD East bank, looking north (downstream); August 25, 2015

Photo A.24: HDD East bank, looking south (upstream); August 25, 2015

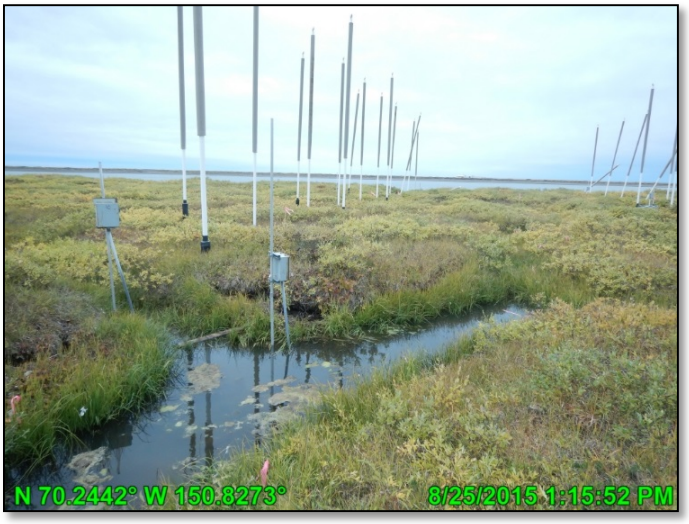


Photo A.25: HDD East polygon trough, looking west; August 25, 2015

Photo A.26: HDD East south side of gravel pad, looking east; August 25, 2015

Photo A.27: HDD East depression over the NPS oil pipeline, looking west; August 25, 2015

Photo A.28: HDD East fill over seawater pipeline, looking southeast; August 25, 2015

Photo A.29: HDD East pipeline entrance, looking northwest; August 25, 2015

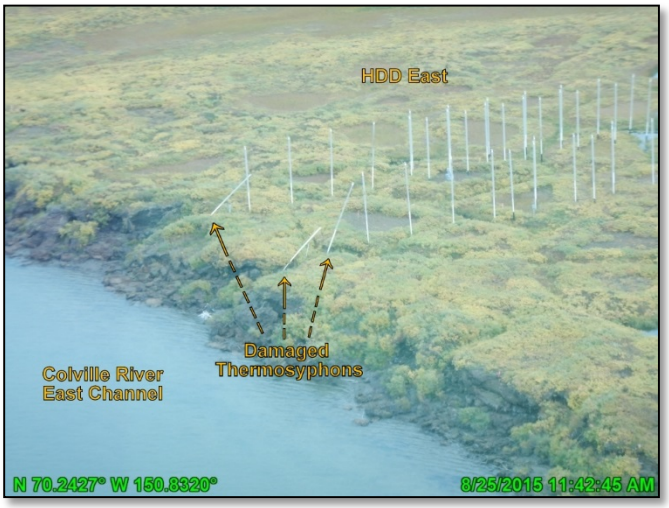


Photo A.30: HDD East damaged thermosyphons, looking northwest; August 25, 2015

Photo A.31: HDD East looking west through thermosyphons; August 25, 2015

Photo A.32: HDD East looking west through thermosyphons; August 25, 2015

A.3 Kachemach River

Photo A.33: Kachemach River pre-breakup, looking south; May 18, 2015

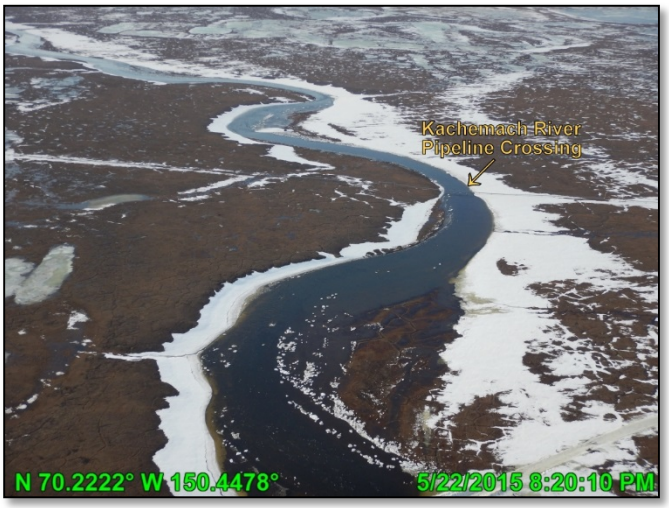


Photo A.34: Kachemach River during breakup, looking north; May 22, 2015

Photo A.35: Kachemach River during breakup, looking north; May 27, 2015

Photo A.36: Kachemach River post breakup, looking north; August 25, 2015

Photo A.37: Kachemach River post breakup, looking south; August 25, 2015

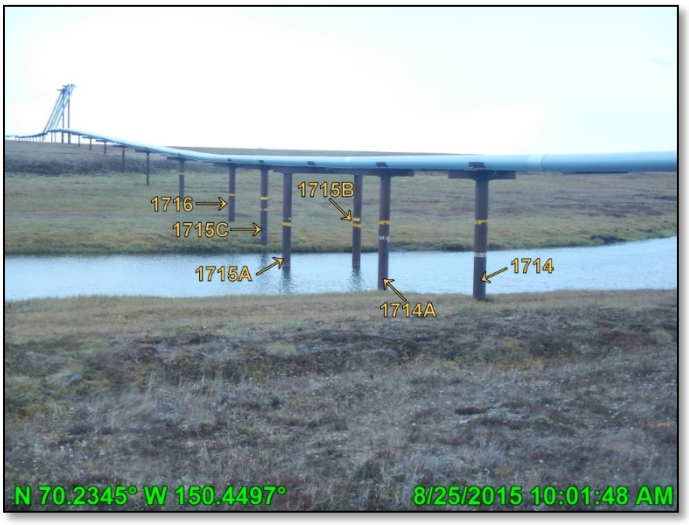


Photo A.38: Kachemach River post breakup, looking southeast; August 25, 2015

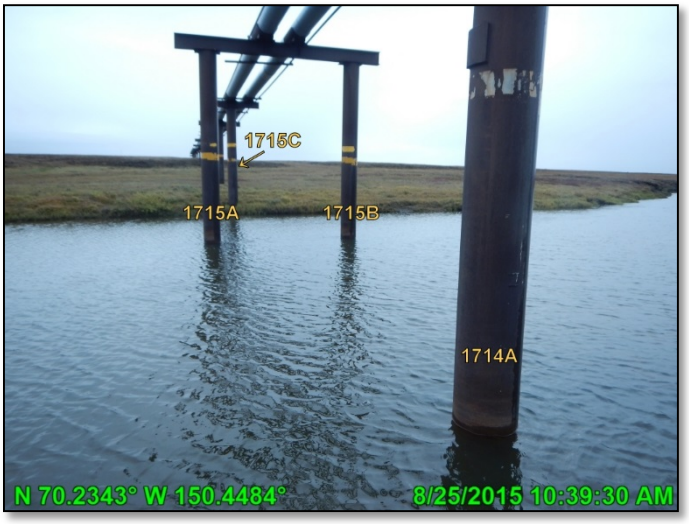


Photo A.39: Kachemach River post breakup, looking southeast; August 25, 2015

Photo A.40: Kachemach River VSM 1714; August 25, 2015

Photo A.41: Kachemach River VSM measurement with level, looking east; August 25, 2015

Photo A.42: Kachemach River VSM measurement with plumb bob, looking east; August 25, 2015

A.4 Miluveach River

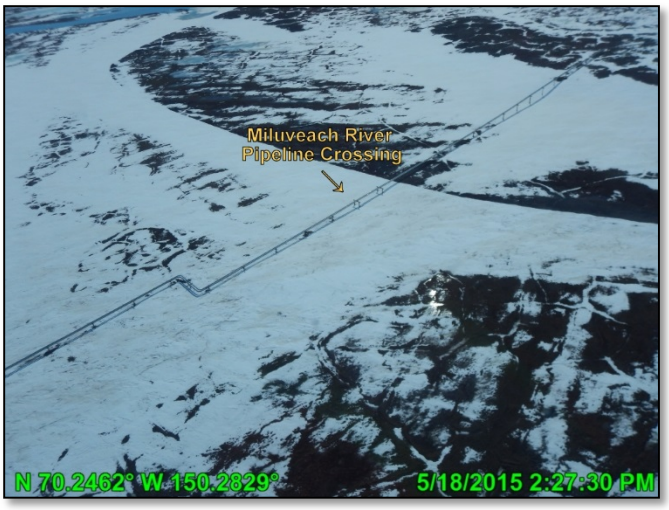


Photo A.43: Miluveach River pre-breakup, looking southeast; May 18, 2015

Photo A.44: Miluveach River during breakup, looking north; May 22, 2015

Photo A.45: Miluveach River during breakup, looking north; May 27, 2015

Photo A.46: Miluveach River post breakup, looking northwest; August 25, 2015

Photo A.47: Miluveach River post breakup, looking southeast; August 25, 2015

Photo A.48: Miluveach River VSMs, looking southeast; August 25, 2015

Photo A.49: Miluveach River post breakup, looking northwest; August 25, 2015

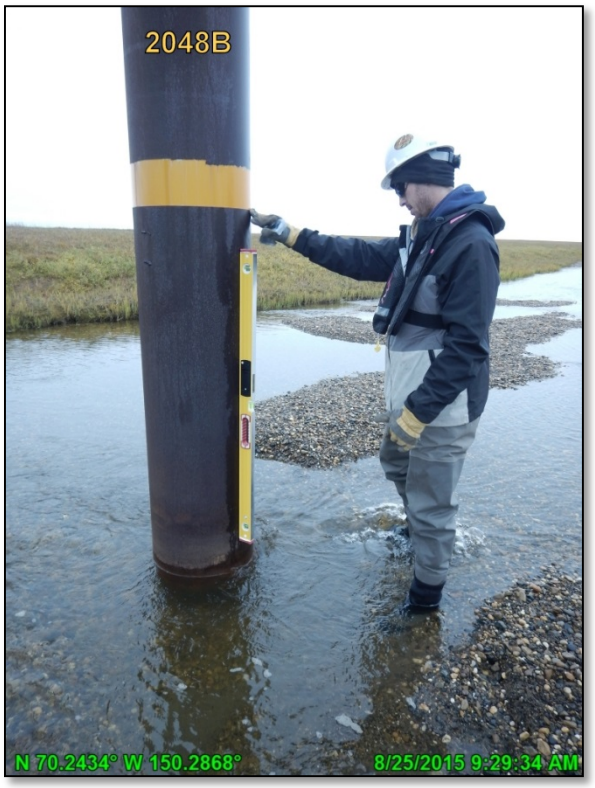


Photo A.50: Miluveach River VSM measurement with level, looking southeast; August 25, 2015

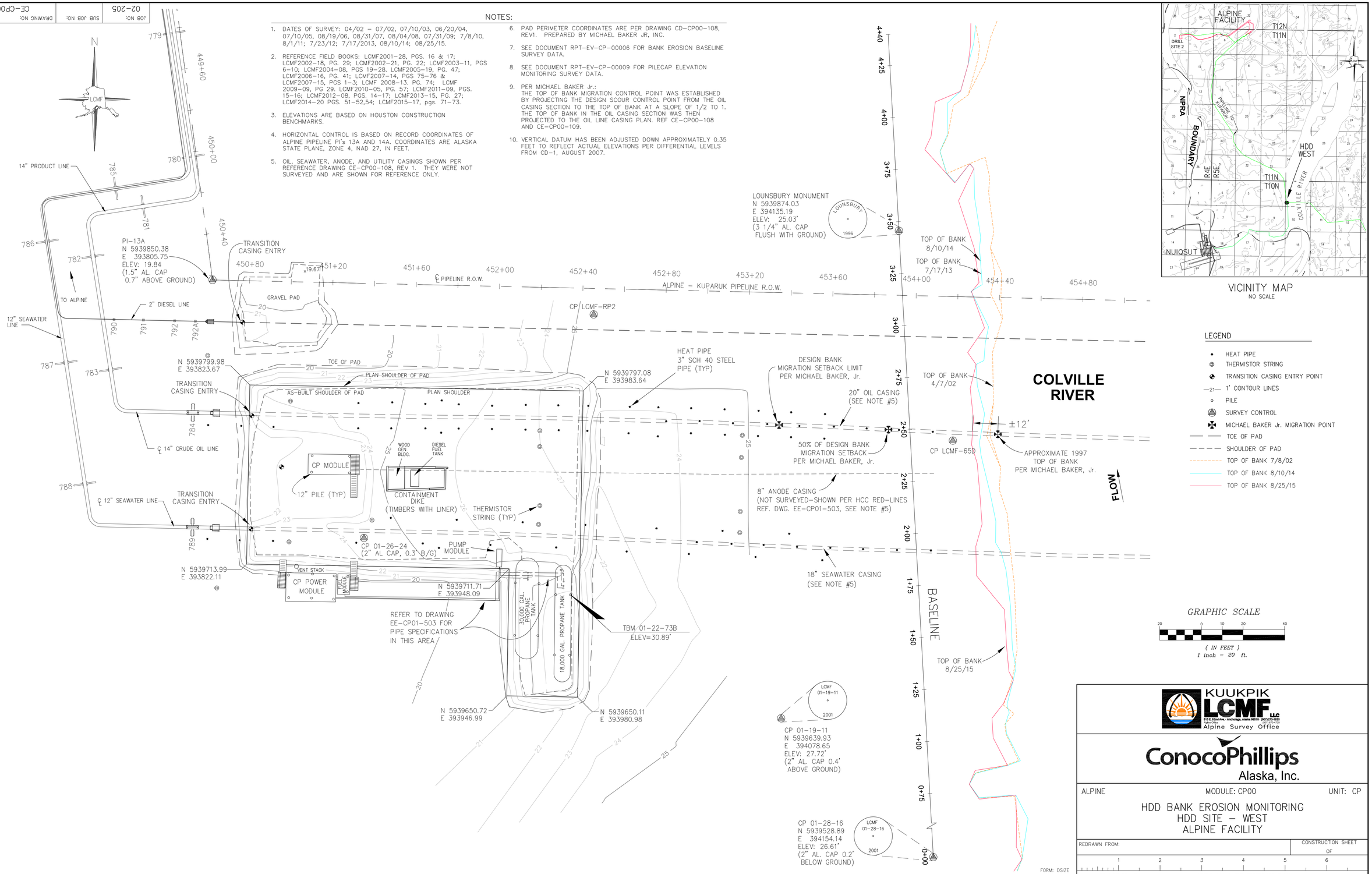
Photo A.51: Miluveach River VSM measurement with plumb bob, looking southwest; August 25, 2015

Appendix B HDD West Bank Erosion Survey

JOB NO: 02-205 | SUB JOB NO: | DRAWING NO: CE-CP00-143

NOTES:

1. DATES OF SURVEY: 04/02 – 07/02, 07/10/03, 06/20/04, 07/10/05, 08/19/06, 08/31/07, 08/04/08, 07/31/09; 7/8/10, 8/1/11; 7/23/12; 7/17/2013, 08/10/14; 08/25/15.
2. REFERENCE FIELD BOOKS: LCMF2001–28, PGS. 16 & 17; LCMF2002–18, PG. 29; LCMF2002–21, PG. 22; LCMF2003–11, PGS 6–10; LCMF2004–08, PGS 19–28. LCMF2005–19, PG. 47; LCMF2006–16, PG. 41; LCMF2007–14, PGS 75–76 & LCMF2007–15, PGS 1–3; LCMF 2008–13. PG. 74; LCMF 2009–09, PG 29. LCMF2010–05, PG. 57; LCMF2011–09, PGS. 15–16; LCMF2012–08, PGS. 14–17; LCMF2013–15, PG. 27; LCMF2014–20 PGS. 51–52,54; LCMF2015–17, pgs. 71–73.
3. ELEVATIONS ARE BASED ON HOUSTON CONSTRUCTION BENCHMARKS.
4. HORIZONTAL CONTROL IS BASED ON RECORD COORDINATES OF ALPINE PIPELINE PI's 13A AND 14A. COORDINATES ARE ALASKA STATE PLANE, ZONE 4, NAD 27, IN FEET.
5. OIL, SEAWATER, ANODE, AND UTILITY CASINGS SHOWN PER REFERENCE DRAWING CE–CP00–108, REV 1. THEY WERE NOT SURVEYED AND ARE SHOWN FOR REFERENCE ONLY.
6. PAD PERIMETER COORDINATES ARE PER DRAWING CD–CP00–108, REV1. PREPARED BY MICHAEL BAKER JR, INC.
7. SEE DOCUMENT RPT–EV–CP–00006 FOR BANK EROSION BASELINE SURVEY DATA.
8. SEE DOCUMENT RPT–EV–CP–00009 FOR PILECAP ELEVATION MONITORING SURVEY DATA.
9. PER MICHAEL BAKER Jr.: THE TOP OF BANK MIGRATION CONTROL POINT WAS ESTABLISHED BY PROJECTING THE DESIGN SCOUR CONTROL POINT FROM THE OIL CASING SECTION TO THE TOP OF BANK AT A SLOPE OF 1/2 TO 1. THE TOP OF BANK IN THE OIL CASING SECTION WAS THEN PROJECTED TO THE OIL LINE CASING PLAN. REF CE–CP00–108 AND CE–CP00–109.
10. VERTICAL DATUM HAS BEEN ADJUSTED DOWN APPROXIMATELY 0.35 FEET TO REFLECT ACTUAL ELEVATIONS PER DIFFERENTIAL LEVELS FROM CD–1, AUGUST 2007.



VICINITY MAP
NO SCALE

LEGEND

- HEAT PIPE
- THERMISTOR STRING
- TRANSITION CASING ENTRY POINT
- —21— 1' CONTOUR LINES
- PILE
- SURVEY CONTROL
- MICHAEL BAKER Jr. MIGRATION POINT
- TOE OF PAD
- SHOULDER OF PAD
- TOP OF BANK 7/8/02
- TOP OF BANK 8/10/14
- TOP OF BANK 8/25/15

GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
1 inch = 20 ft.

KUUKPIK LCMF LLC
810 E. 82nd Ave. · Anchorage, Alaska 99515 · (907)273-1830
Alpine Survey Office

ConocoPhillips Alaska, Inc.

ALPINE | MODULE: CP00 | UNIT: CP

HDD BANK EROSION MONITORING
HDD SITE – WEST
ALPINE FACILITY

REDRAWN FROM: | CONSTRUCTION SHEET OF

1 2 3 4 5 6
DO NOT SCALE | ABOVE SCALE FOR REFERENCE ONLY

DATE: 11/5/02	DRAWN: CZ	DESIGN:	ECM NO: 1870227ACS
SCALE: 1"=20'	CHECKED: JZ		CC NO:
JOB NO: 02–205	SUB JOB NO:	APPROVAL: ML	CADD FILE NO. 01–12–05–1WEST
		DRAWING NO: CE–CP00–143	PART: 1 OF 1 / REV: 14

REFERENCE DWG NO/SHT NO:

REV	DATE	REVISIONS	BY	CHK	JOB ENGR	PROJ ENGR	CUST APP
12	7/17/13	UPDATED PER 9670829ACS	CZ	DB			
11	7/23/12	UPDATED PER 9101901ACS	AG	DB			
10	8/3/11	UPDATED PER 8292382ACS	AG	DB			
9	7/10/10	UPDATED PER 7224503ACS	CZ	GD			
8	7/31/09	UPDATED PER 6370813ACS	AG	DB			
7	8/7/08	UPDATED PER 5538034ACS	CZ	GD			
6	8/31/07	UPDATED PER 4810351ACS	CZ	DB			
5	8/21/06	UPDATED PER 4116808ACS	AG	GD			
4	7/10/05	UPDATED PER 3391755ACS	CZ	DB			
3	6/25/04	UPDATED PER 2390460ACS	CZ	BD			
14	9/01/15	UPDATED PER 20967693ACS	CZ	DB			
13	08/11/14	ISSUED PER 20306694ACS	TB	DB			

FORM: DSIZE

Alpine CP 00
HDD West Site
Streambank Monitor

Baseline	Streambank Monitor - Top of Bank Locations											Description
Station	See Drawing CE-CP00-143 Rev 10 for Survey Baseline Location											
	4/7/2002	7/8/2002	7/10/2003	6/20/2004	7/10/2005	8/19/2006	8/31/2007	8/5/2008	7/31/2009	7/8/2010	8/1/2011	Date
0+00	39.5	39.5	39.5	39.5	39.3	39.3	39.3	39.3	39.4	39.3	39.4	Baseline Offset (In Feet)
		0.0	0.0	0.0	-0.2	0.0	0.0	0.0	0.1	-0.1	0.1	Incremental Change
		0.0	0.0	0.0	-0.3	-0.2	-0.2	-0.2	-0.1	-0.2	-0.1	Cumulative Change
0+05	39.3	39.3	39.3	39.3	37.6	37.6	37.6	37.6	37.7	37.6	37.7	Baseline Offset (In Feet)
		0.0	0.0	0.0	-1.7	0.0	0.0	0.0	0.1	-0.1	0.1	Incremental Change
		0.0	0.0	0.0	-1.7	-1.7	-1.7	-1.7	-1.6	-1.7	-1.6	Cumulative Change
0+10	39.4	39.4	39.4	39.4	38.5	38.5	38.5	38.5	38.7	38.5	38.7	Baseline Offset (In Feet)
		0.0	0.0	0.0	-0.9	0.0	0.0	0.0	0.2	-0.2	0.2	Incremental Change
		0.0	0.0	0.0	-0.9	-0.9	-0.9	-0.9	-0.7	-0.9	-0.6	Cumulative Change
0+20	45.8	45.8	45.8	45.8	41.9	41.9	41.9	41.9	39.9	39.9	39.8	Baseline Offset (In Feet)
		0.0	0.0	0.0	-3.8	0.0	0.0	0.0	-2.0	0.0	-0.1	Incremental Change
		0.0	0.0	0.0	-3.8	-3.9	-3.9	-3.9	-5.9	-5.9	-6.0	Cumulative Change
0+25	41.5	41.5	41.5	41.5	39.1	39.1	39.1	39.1	37.6	37.6	37.6	Baseline Offset (In Feet)
		0.0	0.0	0.0	-2.4	0.0	0.0	0.0	-1.5	0.0	0.0	Incremental Change
		0.0	0.0	0.0	-2.4	-2.4	-2.4	-2.4	-3.9	-3.9	-3.9	Cumulative Change
0+30	37.7	37.9	37.9	37.9	37.9	37.9	37.9	37.9	37.8	37.9	37.9	Baseline Offset (In Feet)
		0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.1	0.0	Incremental Change
		0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.1	0.2	0.2	Cumulative Change
0+40	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	42.2	41.9	41.6	Baseline Offset (In Feet)
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	-0.3	-0.3	Incremental Change
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	-0.3	Cumulative Change

Alpine CP 00
HDD West Site
Streambank Monitor

Baseline	**Streambank Monitor - Top of Bank Locations**											**Description**
Station	See Drawing CE-CP00-143 Rev 10 for Survey Baseline Location											
	4/7/2002	**7/8/2002**	**7/10/2003**	**6/20/2004**	**7/10/2005**	**8/19/2006**	**8/31/2007**	**8/5/2008**	**7/31/2009**	**7/8/2010**	**8/1/2011**	**Date**
0+50	42.0	42.0	42.0	42.0	42.0	42.0	44.5	44.5	44.5	44.0	44.0	Baseline Offset (In Feet)
		0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0	-0.5	0.0	Incremental Change
		0.0	0.0	0.0	0.0	0.0	2.5	2.5	2.5	2.0	1.9	Cumulative Change
0+60	41.4	41.4	41.4	41.4	41.4	41.4	46.4	46.4	46.3	46.4	46.3	Baseline Offset (In Feet)
		0.0	0.0	0.0	0.0	0.0	5.0	0.0	-0.1	0.1	-0.1	Incremental Change
		0.0	0.0	0.0	0.0	0.0	5.0	5.0	4.9	5.0	4.9	Cumulative Change
0+70	40.7	40.7	40.7	40.7	40.7	40.7	41.9	41.9	41.9	41.9	42.1	Baseline Offset (In Feet)
		0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.2	Incremental Change
		0.0	0.0	0.0	0.0	0.0	1.2	1.2	1.2	1.2	1.4	Cumulative Change
0+75	21.4	21.4	21.4	21.4	21.4	21.4	21.4	21.4	21.3	21.4	21.3	Baseline Offset (In Feet)
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.1	-0.1	Incremental Change
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	-0.1	Cumulative Change
0+80	20.1	20.1	20.1	20.1	20.1	20.1	20.1	20.1	20.1	20.1	20.2	Baseline Offset (In Feet)
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	Incremental Change
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	Cumulative Change
0+85	29.0	29.0	29.0	29.0	29.0	29.0	29.7	29.7	30.3	29.7	30.3	Baseline Offset (In Feet)
		0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.6	-0.6	0.6	Incremental Change
		0.0	0.0	0.0	0.0	0.0	0.7	0.7	1.3	0.7	1.3	Cumulative Change
0+90	42.8	42.8	42.8	42.8	42.8	42.8	42.8	42.8	43.3	42.8	43.4	Baseline Offset (In Feet)
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	-0.5	0.6	Incremental Change
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.5	Cumulative Change

Alpine CP 00
HDD West Site
Streambank Monitor

Baseline	Streambank Monitor - Top of Bank Locations											Description
Station	See Drawing CE-CP00-143 Rev 10 for Survey Baseline Location											
	4/7/2002	7/8/2002	7/10/2003	6/20/2004	7/10/2005	8/19/2006	8/31/2007	8/5/2008	7/31/2009	7/8/2010	8/1/2011	Date
1+00	38.7	38.7	38.7	38.7	38.7	38.7	38.7	38.7	38.9	38.7	39.0	Baseline Offset (In Feet)
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	-0.2	0.3	Incremental Change
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2	Cumulative Change
1+05	37.9	37.9	37.9	37.9	37.9	37.9	37.9	37.9	37.8	37.9	38.0	Baseline Offset (In Feet)
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.1	0.1	Incremental Change
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.1	Cumulative Change
1+10	41.4	41.4	41.4	41.4	39.2	39.2	39.2	39.2	39.2	39.2	39.2	Baseline Offset (In Feet)
		0.0	0.0	0.0	-2.2	0.1	0.0	0.0	0.0	0.0	0.0	Incremental Change
		0.0	0.0	0.0	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	Cumulative Change
1+15	38.2	38.2	38.2	38.2	38.2	38.2	39.9	39.9	39.9	39.1	39.3	Baseline Offset (In Feet)
		0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0	-0.8	0.1	Incremental Change
		0.0	0.0	0.0	0.0	0.0	1.7	1.7	1.7	0.9	1.0	Cumulative Change
1+20	39.4	39.4	39.4	39.4	39.4	39.4	40.4	40.4	40.4	40.4	40.5	Baseline Offset (In Feet)
		0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.1	Incremental Change
		0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.1	Cumulative Change
1+25	41.4	41.4	41.4	41.4	41.4	41.4	41.4	41.4	42.1	41.4	42.1	Baseline Offset (In Feet)
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	-0.7	0.7	Incremental Change
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.7	Cumulative Change
1+30	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.5	43.0	43.6	Baseline Offset (In Feet)
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	-0.5	0.6	Incremental Change
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.5	Cumulative Change

Alpine CP 00
HDD West Site
Streambank Monitor

Baseline	**Streambank Monitor - Top of Bank Locations**											**Description**
Station	See Drawing CE-CP00-143 Rev 10 for Survey Baseline Location											
	4/7/2002	**7/8/2002**	**7/10/2003**	**6/20/2004**	**7/10/2005**	**8/19/2006**	**8/31/2007**	**8/5/2008**	**7/31/2009**	**7/8/2010**	**8/1/2011**	**Date**
1+35	44.2	44.2	44.2	44.2	43.8	43.8	43.8	43.8	44.1	43.8	44.1	Baseline Offset (In Feet)
		0.0	0.0	0.0	-0.4	0.0	0.0	0.0	0.3	-0.3	0.3	Incremental Change
		0.0	0.0	0.0	-0.4	-0.4	-0.4	-0.4	-0.1	-0.4	-0.1	Cumulative Change
1+40	45.3	45.3	45.3	45.3	43.4	43.4	43.4	43.4	43.4	43.4	43.5	Baseline Offset (In Feet)
		0.0	0.0	0.0	-1.9	0.0	0.0	0.0	0.0	0.0	0.1	Incremental Change
		0.0	0.0	0.0	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9	-1.8	Cumulative Change
1+45	45.7	45.7	45.7	45.7	43.4	43.4	43.4	43.4	43.4	43.4	43.3	Baseline Offset (In Feet)
		0.0	0.0	0.0	-2.3	0.0	0.0	0.0	0.0	0.0	-0.1	Incremental Change
		0.0	0.0	0.0	-2.3	-2.3	-2.3	-2.3	-2.3	-2.3	-2.4	Cumulative Change
1+50	45.7	45.7	45.7	45.7	43.9	43.9	43.9	43.9	44.1	43.9	43.4	Baseline Offset (In Feet)
		0.0	0.0	0.0	-1.8	0.0	0.0	0.0	0.2	-0.2	-0.5	Incremental Change
		0.0	0.0	0.0	-1.8	-1.8	-1.8	-1.8	-1.6	-1.8	-2.3	Cumulative Change
1+60	45.8	45.8	45.8	44.9	44.2	44.3	44.3	44.3	44.2	43.7	43.8	Baseline Offset (In Feet)
		0.0	0.0	-1.0	-0.6	0.0	0.0	0.0	-0.1	-0.5	0.0	Incremental Change
		0.0	0.0	-1.0	-1.6	-1.6	-1.5	-1.5	-1.6	-2.1	-2.1	Cumulative Change
1+65	45.9	45.9	45.9	45.0	44.3	44.4	44.4	44.4	44.2	43.8	43.6	Baseline Offset (In Feet)
		0.0	0.0	-0.9	-0.7	0.1	0.0	0.0	-0.2	-0.4	-0.2	Incremental Change
		0.0	0.0	-0.9	-1.6	-1.5	-1.5	-1.5	-1.7	-2.1	-2.3	Cumulative Change
1+75	45.9	45.9	45.9	45.9	44.4	44.4	44.4	44.4	44.4	44.3	42.7	Baseline Offset (In Feet)
		0.0	0.0	0.0	-1.5	0.0	0.0	0.0	0.0	-0.1	-1.6	Incremental Change
		0.0	0.0	0.0	-1.5	-1.5	-1.5	-1.5	-1.5	-1.6	-3.2	Cumulative Change

Alpine CP 00
HDD West Site
Streambank Monitor

Baseline	**Streambank Monitor - Top of Bank Locations**											**Description**
Station	See Drawing CE-CP00-143 Rev 10 for Survey Baseline Location											
	4/7/2002	**7/8/2002**	**7/10/2003**	**6/20/2004**	**7/10/2005**	**8/19/2006**	**8/31/2007**	**8/5/2008**	**7/31/2009**	**7/8/2010**	**8/1/2011**	**Date**
1+90	45.0	45.0	44.1	44.1	44.1	44.1	44.1	44.1	44.2	40.9	40.1	Baseline Offset (In Feet)
		0.0	-0.9	0.0	0.0	0.0	0.0	0.0	0.1	-3.3	-0.8	Incremental Change
		0.0	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-0.8	-4.1	-4.9	Cumulative Change
1+95	44.9	44.9	42.8	42.8	42.8	42.8	42.8	42.8	42.8	37.8	38.0	Baseline Offset (In Feet)
		0.0	-2.1	0.0	0.0	0.0	0.0	0.0	0.0	-5.0	0.2	Incremental Change
		0.0	-2.1	-2.1	-2.1	-2.1	-2.1	-2.1	-2.1	-7.1	-6.9	Cumulative Change
2+00	44.7	44.7	41.8	41.8	41.1	40.4	40.4	40.4	40.6	38.1	38.3	Baseline Offset (In Feet)
		0.0	-2.9	0.0	-0.8	-0.6	0.0	0.0	0.2	-2.5	0.2	Incremental Change
		0.0	-2.9	-2.9	-3.6	-4.3	-4.3	-4.3	-4.1	-6.6	-6.5	Cumulative Change
2+05	44.6	44.6	40.4	40.4	39.7	38.4	38.4	38.4	38.3	38.4	38.3	Baseline Offset (In Feet)
		0.0	-4.2	0.0	-0.7	-1.4	0.0	0.0	-0.1	0.1	-0.1	Incremental Change
		0.0	-4.2	-4.2	-4.8	-6.2	-6.2	-6.2	-6.3	-6.2	-6.2	Cumulative Change
2+10	43.7	43.7	40.4	40.2	40.2	38.3	38.3	38.3	38.1	38.3	37.6	Baseline Offset (In Feet)
		0.0	-3.2	-0.3	0.0	-1.9	0.0	0.0	-0.2	0.2	-0.7	Incremental Change
		0.0	-3.2	-3.5	-3.5	-5.4	-5.4	-5.4	-5.6	-5.4	-6.0	Cumulative Change
2+20	41.5	41.5	41.5	40.6	40.6	37.5	37.5	37.5	37.2	37.5	36.1	Baseline Offset (In Feet)
		0.0	0.0	-0.9	0.0	-3.1	0.0	0.0	-0.3	0.3	-1.4	Incremental Change
		0.0	0.0	-0.9	-0.9	-3.9	-4.0	-4.0	-4.3	-4.0	-5.4	Cumulative Change
2+25	42.0	42.0	42.0	40.7	40.7	35.9	35.9	35.9	35.7	35.9	35.1	Baseline Offset (In Feet)
		0.0	0.0	-1.3	0.0	-4.8	0.0	0.0	-0.2	0.2	-0.8	Incremental Change
		0.0	0.0	-1.3	-1.3	-6.1	-6.1	-6.1	-6.3	-6.1	-6.9	Cumulative Change

Alpine CP 00
HDD West Site
Streambank Monitor

Baseline	Streambank Monitor - Top of Bank Locations											Description
Station	See Drawing CE-CP00-143 Rev 10 for Survey Baseline Location											
	4/7/2002	7/8/2002	7/10/2003	6/20/2004	7/10/2005	8/19/2006	8/31/2007	8/5/2008	7/31/2009	7/8/2010	8/1/2011	Date
2+30	42.4	42.3	42.2	40.9	40.9	34.2	34.2	34.2	34.2	34.2	34.1	Baseline Offset (In Feet)
		0.0	-0.1	-1.4	0.0	-6.6	0.0	0.0	0.0	0.0	-0.1	Incremental Change
		0.0	-0.1	-1.5	-1.5	-8.1	-8.2	-8.2	-8.2	-8.2	-8.2	Cumulative Change
2+35	41.0	40.4	40.4	40.4	40.4	33.1	33.1	33.1	33.1	33.1	33.1	Baseline Offset (In Feet)
		-0.6	0.0	0.0	0.0	-7.3	0.0	0.0	0.0	0.0	0.0	Incremental Change
		-0.6	-0.6	-0.6	-0.6	-7.9	-7.9	-7.9	-7.9	-7.9	-7.9	Cumulative Change
2+45	38.3	36.8	36.8	36.8	36.8	32.7	32.7	32.7	32.7	32.7	33.3	Baseline Offset (In Feet)
		-1.5	0.0	0.0	0.0	-4.1	0.0	0.0	0.0	0.0	0.6	Incremental Change
		-1.5	-1.5	-1.5	-1.5	-5.6	-5.6	-5.6	-5.6	-5.6	-5.0	Cumulative Change
2+50	39.0	38.1	37.8	37.5	37.1	34.3	34.3	34.3	34.3	34.3	34.7	Baseline Offset (In Feet)
		-1.0	-0.3	-0.3	-0.4	-2.8	0.0	0.0	0.0	0.0	0.4	Incremental Change
		-1.0	-1.2	-1.5	-1.9	-4.7	-4.7	-4.7	-4.7	-4.7	-4.4	Cumulative Change
2+55	39.9	39.3	38.2	38.2	37.4	35.9	35.9	35.9	35.9	35.9	36.0	Baseline Offset (In Feet)
		-0.5	-1.1	0.0	-0.8	-1.5	0.0	0.0	0.0	0.0	0.1	Incremental Change
		-0.5	-1.6	-1.6	-2.4	-4.0	-4.0	-4.0	-4.0	-4.0	-3.8	Cumulative Change
2+60	40.7	40.7	40.7	40.7	38.3	35.1	35.1	35.1	35.2	35.1	35.2	Baseline Offset (In Feet)
		0.0	0.0	0.0	-2.4	-3.1	0.0	0.0	0.1	-0.1	0.1	Incremental Change
		0.0	0.0	0.0	-2.4	-5.5	-5.6	-5.6	-5.5	-5.6	-5.5	Cumulative Change
2+65	40.9	40.9	40.9	40.6	39.2	34.1	34.1	34.1	34.2	34.1	34.2	Baseline Offset (In Feet)
		0.0	0.0	-0.4	-1.3	-5.1	0.0	0.0	0.1	-0.1	0.1	Incremental Change
		0.0	0.0	-0.4	-1.7	-6.8	-6.8	-6.8	-6.7	-6.8	-6.8	Cumulative Change

Alpine CP 00
HDD West Site
Streambank Monitor

Baseline	**Streambank Monitor - Top of Bank Locations**											**Description**
Station	See Drawing CE-CP00-143 Rev 10 for Survey Baseline Location											
	4/7/2002	**7/8/2002**	**7/10/2003**	**6/20/2004**	**7/10/2005**	**8/19/2006**	**8/31/2007**	**8/5/2008**	**7/31/2009**	**7/8/2010**	**8/1/2011**	**Date**
2+70	41.1	41.1	41.1	40.3	40.3	33.3	33.3	33.3	33.4	33.3	33.3	Baseline Offset (In Feet)
		0.0	0.0	-0.8	0.0	-7.0	0.0	0.0	0.1	-0.1	0.0	Incremental Change
		0.0	0.0	-0.8	-0.8	-7.8	-7.8	-7.8	-7.7	-7.8	-7.8	Cumulative Change
2+75	41.3	41.3	41.3	39.9	39.9	33.3	33.3	33.3	33.3	33.3	33.3	Baseline Offset (In Feet)
		0.0	0.0	-1.4	0.0	-6.6	0.0	0.0	0.0	0.0	0.0	Incremental Change
		0.0	0.0	-1.4	-1.4	-8.0	-8.0	-8.0	-8.0	-8.0	-8.0	Cumulative Change
2+80	41.5	41.5	41.5	39.4	39.4	34.6	34.6	34.6	34.2	34.6	33.5	Baseline Offset (In Feet)
		0.0	0.0	-2.2	0.0	-4.8	0.0	0.0	-0.4	0.4	-1.1	Incremental Change
		0.0	0.0	-2.2	-2.2	-6.9	-6.9	-6.9	-7.3	-6.9	-8.0	Cumulative Change
2+85	41.7	41.7	41.7	39.6	39.6	37.8	37.8	37.8	37.6	37.8	36.1	Baseline Offset (In Feet)
		0.0	0.0	-2.1	0.0	-1.8	0.0	0.0	-0.2	0.2	-1.7	Incremental Change
		0.0	0.0	-2.1	-2.1	-3.9	-3.9	-3.9	-4.1	-3.9	-5.6	Cumulative Change
2+90	43.5	43.5	41.5	40.8	40.8	38.5	38.5	38.5	38.5	38.5	38.6	Baseline Offset (In Feet)
		0.0	-1.9	-0.7	0.0	-2.3	0.0	0.0	0.0	0.0	0.1	Incremental Change
		0.0	-1.9	-2.6	-2.6	-5.0	-5.0	-5.0	-5.0	-5.0	-4.9	Cumulative Change
3+00	47.0	47.0	46.1	46.1	44.8	41.6	41.6	41.6	41.6	40.5	40.3	Baseline Offset (In Feet)
		0.0	-0.9	0.0	-1.3	-3.2	0.0	0.0	0.0	-1.1	-0.3	Incremental Change
		0.0	-0.9	-0.9	-2.2	-5.4	-5.4	-5.4	-5.4	-6.5	-6.7	Cumulative Change
3+10	47.1	43.6	43.6	43.6	43.6	43.2	43.2	43.2	43.2	39.8	39.2	Baseline Offset (In Feet)
		-3.5	0.0	0.0	0.0	-0.4	0.0	0.0	0.0	-3.4	-0.6	Incremental Change
		-3.5	-3.5	-3.5	-3.5	-3.8	-3.8	-3.8	-3.8	-7.3	-7.9	Cumulative Change

Alpine CP 00
HDD West Site
Streambank Monitor

Baseline	Streambank Monitor - Top of Bank Locations											Description
Station	See Drawing CE-CP00-143 Rev 10 for Survey Baseline Location											
	4/7/2002	7/8/2002	7/10/2003	6/20/2004	7/10/2005	8/19/2006	8/31/2007	8/5/2008	7/31/2009	7/8/2010	8/1/2011	Date
3+15	47.4	42.9	42.9	42.9	42.3	42.9	42.9	42.0	42.0	39.4	38.9	Baseline Offset (In Feet)
		-4.5	0.0	0.0	-0.6	0.6	0.0	-0.9	0.0	-2.6	-0.5	Incremental Change
		-4.5	-4.5	-4.5	-5.2	-4.6	-4.5	-5.4	-5.4	-8.0	-8.5	Cumulative Change
3+25	47.3	44.6	44.6	44.4	42.3	38.9	38.9	37.4	37.4	36.9	36.7	Baseline Offset (In Feet)
		-2.7	0.0	-0.2	-2.1	-3.4	0.0	-1.5	0.0	-0.5	-0.2	Incremental Change
		-2.7	-2.7	-2.9	-5.0	-8.4	-8.4	-9.9	-9.9	-10.4	-10.6	Cumulative Change
3+30	45.4	44.0	44.0	43.2	42.7	36.2	36.2	35.4	35.4	35.2	35.1	Baseline Offset (In Feet)
		-1.4	0.0	-0.9	-0.5	-6.5	0.0	-0.8	0.0	-0.2	-0.1	Incremental Change
		-1.4	-1.4	-2.3	-2.7	-9.2	-9.2	-10.0	-10.0	-10.2	-10.3	Cumulative Change
3+35	43.4	43.4	43.4	43.4	42.0	36.4	36.4	35.8	35.8	35.8	35.5	Baseline Offset (In Feet)
		0.0	0.0	0.0	-1.4	-5.6	0.0	-0.6	0.0	0.0	-0.3	Incremental Change
		0.0	0.0	0.0	-1.4	-7.0	-7.0	-7.6	-7.6	-7.6	-7.9	Cumulative Change
3+40	44.8	44.8	44.0	44.0	41.3	41.1	41.1	40.1	40.1	40.1	38.7	Baseline Offset (In Feet)
		0.0	-0.8	0.0	-2.6	-0.3	0.0	-1.0	0.0	0.0	-1.4	Incremental Change
		0.0	-0.8	-0.8	-3.5	-3.7	-3.7	-4.7	-4.7	-4.7	-6.1	Cumulative Change
3+45	45.2	45.2	44.2	44.2	42.8	41.5	41.5	40.7	40.7	40.7	38.8	Baseline Offset (In Feet)
		0.0	-1.0	0.0	-1.5	-1.3	0.0	-0.8	0.0	0.0	-1.9	Incremental Change
		0.0	-1.0	-1.0	-2.5	-3.7	-3.7	-4.5	-4.5	-4.5	-6.4	Cumulative Change
3+50	44.9	44.9	44.2	44.2	42.3	41.4	41.4	40.8	40.8	40.8	38.7	Baseline Offset (In Feet)
		0.0	-0.6	0.0	-1.9	-0.9	0.0	-0.6	0.0	0.0	-2.1	Incremental Change
		0.0	-0.7	-0.7	-2.6	-3.5	-3.5	-4.1	-4.1	-4.1	-6.2	Cumulative Change

Alpine CP 00
HDD West Site
Streambank Monitor

Baseline	**Streambank Monitor - Top of Bank Locations**											**Description**
Station	See Drawing CE-CP00-143 Rev 10 for Survey Baseline Location											
	4/7/2002	**7/8/2002**	**7/10/2003**	**6/20/2004**	**7/10/2005**	**8/19/2006**	**8/31/2007**	**8/5/2008**	**7/31/2009**	**7/8/2010**	**8/1/2011**	**Date**
3+60	44.1	44.1	44.1	44.1	43.4	41.4	41.4	41.4	41.0	41.4	38.4	Baseline Offset (In Feet)
		0.0	0.0	0.0	-0.7	-2.0	0.0	0.0	-0.4	0.4	-3.0	Incremental Change
		0.0	0.0	0.0	-0.7	-2.7	-2.7	-2.7	-3.1	-2.7	-5.7	Cumulative Change
3+70	44.7	44.7	42.8	41.8	41.0	26.0	26.0	26.0	26.0	26.0	26.2	Baseline Offset (In Feet)
		0.0	-1.9	-1.1	-0.8	-15.0	0.0	0.0	0.0	0.0	0.1	Incremental Change
		0.0	-1.9	-2.9	-3.7	-18.7	-18.7	-18.7	-18.7	-18.7	-18.6	Cumulative Change
3+75	23.6	23.6	23.6	23.6	23.6	23.6	23.6	23.6	23.6	23.6	23.8	Baseline Offset (In Feet)
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	Incremental Change
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	Cumulative Change
3+85	23.1	23.1	23.1	23.1	23.1	23.0	23.0	23.0	23.1	23.0	23.0	Baseline Offset (In Feet)
		0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.1	-0.1	0.0	Incremental Change
		0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	0.0	-0.1	-0.1	Cumulative Change
4+00	28.4	28.4	28.4	28.4	26.5	26.5	26.5	26.5	26.4	26.5	26.3	Baseline Offset (In Feet)
		0.0	0.0	0.0	-1.8	0.0	0.0	0.0	-0.1	0.1	-0.2	Incremental Change
		0.0	0.0	0.0	-1.9	-1.9	-1.9	-1.9	-2.0	-1.9	-2.1	Cumulative Change
4+10	37.4	37.1	37.1	37.1	33.0	33.0	33.0	33.0	34.0	34.0	32.2	Baseline Offset (In Feet)
		-0.3	0.0	0.0	-4.1	0.0	0.0	0.0	1.0	0.0	-1.8	Incremental Change
		-0.3	-0.3	-0.3	-4.4	-4.4	-4.4	-4.4	-3.4	-3.4	-5.2	Cumulative Change
4+25	45.9	42.2	42.2	42.2	40.4	40.3	40.2	40.0	40.0	40.0	38.1	Baseline Offset (In Feet)
		-3.7	0.0	0.0	-1.9	0.0	-0.1	-0.2	0.0	0.0	-1.9	Incremental Change
		-3.7	-3.7	-3.7	-5.6	-5.6	-5.7	-5.9	-5.9	-5.9	-7.8	Cumulative Change

Alpine CP 00
HDD West Site
Streambank Monitor

Baseline	**Streambank Monitor - Top of Bank Locations**											**Description**
Station	See Drawing CE-CP00-143 Rev 10 for Survey Baseline Location											
	4/7/2002	**7/8/2002**	**7/10/2003**	**6/20/2004**	**7/10/2005**	**8/19/2006**	**8/31/2007**	**8/5/2008**	**7/31/2009**	**7/8/2010**	**8/1/2011**	**Date**
4+30	47.3	43.2	43.2	42.1	41.2	41.1	41.1	40.5	40.5	40.5	39.7	Baseline Offset (In Feet)
		-4.1	0.0	-1.1	-0.9	-0.1	0.0	-0.6	0.0	0.0	-0.8	Incremental Change
		-4.1	-4.1	-5.2	-6.1	-6.2	-6.2	-6.8	-6.8	-6.8	-7.6	Cumulative Change
4+35	48.8	43.1	43.1	41.9	41.9	41.8	41.8	41.1	41.1	41.1	41.0	Baseline Offset (In Feet)
		-5.7	0.0	-1.3	0.0	-0.1	0.0	-0.7	0.0	0.0	-0.1	Incremental Change
		-5.7	-5.7	-6.9	-6.9	-7.1	-7.0	-7.7	-7.7	-7.7	-7.8	Cumulative Change
4+40	50.9	42.5	42.5	42.1	42.1	42.1	42.1	41.9	41.9	41.9	41.7	Baseline Offset (In Feet)
		-8.4	0.0	-0.4	0.0	0.0	0.1	-0.2	0.0	0.0	-0.2	Incremental Change
		-8.4	-8.4	-8.8	-8.8	-8.9	-8.8	-9.0	-9.0	-9.0	-9.2	Cumulative Change

*****Note:** Survey completed on 4/7/02 was used for baseline data to compute Incremental/Cumulative Change. Negative numbers indicate erosion.

Alpine CP 00
HDD West Site
Streambank Monitor

Baseline	Streambank Monitor - Top of Bank Locations											Description
Station	See Drawing CE-CP00-143 Rev 14 for Survey Baseline Location											
	7/23/2012	7/17/2013	8/10/2014	8/26/2015	Future	Future	Future	Future	Future	Future	Future	Date
0+00	39.6	39.6	39.6	39.6								Baseline Offset (In Feet)
	0.2	0.0	0.0	0.0								Incremental Change
	0.1	0.1	0.1	0.1								Cumulative Change
0+05	37.8	37.8	37.8	37.8								Baseline Offset (In Feet)
	0.1	0.0	0.0	0.0								Incremental Change
	-1.5	-1.5	-1.5	-1.5								Cumulative Change
0+10	38.8	38.8	38.8	36.5								Baseline Offset (In Feet)
	0.1	0.0	0.0	-2.3								Incremental Change
	-0.5	-0.5	-0.5	-2.9								Cumulative Change
0+20	40.1	40.1	40.1	34.9								Baseline Offset (In Feet)
	0.4	0.0	0.0	-5.2								Incremental Change
	-5.6	-5.6	-5.6	-10.9								Cumulative Change
0+25	37.9	37.9	37.9	33.8								Baseline Offset (In Feet)
	0.3	0.0	0.0	-4.1								Incremental Change
	-3.7	-3.7	-3.7	-7.7								Cumulative Change
0+30	38.1	38.1	38.1	34.0								Baseline Offset (In Feet)
	0.2	0.0	0.0	-4.1								Incremental Change
	0.4	0.4	0.4	-3.7								Cumulative Change
0+40	41.8	41.8	41.8	41.6								Baseline Offset (In Feet)
	0.2	0.0	0.0	-0.2								Incremental Change
	-0.1	-0.1	-0.1	-0.3								Cumulative Change

Alpine CP 00
HDD West Site
Streambank Monitor

Baseline	Streambank Monitor - Top of Bank Locations											Description
Station	See Drawing CE-CP00-143 Rev 14 for Survey Baseline Location											
	7/23/2012	7/17/2013	8/10/2014	8/26/2015	Future	Future	Future	Future	Future	Future	Future	Date
0+50	44.3	44.3	44.3	40.2								Baseline Offset (In Feet)
	0.3	0.0	0.0	-4.1								Incremental Change
	2.3	2.3	2.3	-1.8								Cumulative Change
0+60	46.3	46.3	46.3	40.8								Baseline Offset (In Feet)
	0.0	0.0	0.0	-5.5								Incremental Change
	4.9	4.9	4.9	-0.6								Cumulative Change
0+70	42.1	42.1	42.1	42.1								Baseline Offset (In Feet)
	0.0	0.0	0.0	0.0								Incremental Change
	1.4	1.4	1.4	1.4								Cumulative Change
0+75	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	20.3	20.3	20.3	20.3								Baseline Offset (In Feet)
	0.1	0.0	0.0	0.0								Incremental Change
	0.2	0.2	0.2	0.2								Cumulative Change
0+85	30.7	30.7	30.1	30.1								Baseline Offset (In Feet)
	0.4	0.0	-0.6	0.0								Incremental Change
	1.7	1.7	1.1	1.1								Cumulative Change
0+90	43.6	43.6	43.6	36.4								Baseline Offset (In Feet)
	0.2	0.0	0.0	-7.2								Incremental Change
	0.8	0.8	0.8	-6.4								Cumulative Change

Alpine CP 00
HDD West Site
Streambank Monitor

Baseline	Streambank Monitor - Top of Bank Locations											Description
Station	See Drawing CE-CP00-143 Rev 14 for Survey Baseline Location											
	7/23/2012	7/17/2013	8/10/2014	8/26/2015	Future	Future	Future	Future	Future	Future	Future	Date
1+00	39.1	39.1	39.1	31.9								Baseline Offset (In Feet)
	0.1	0.0	0.0	-7.2								Incremental Change
	0.4	0.4	0.4	-6.8								Cumulative Change
1+05	38.2	38.2	38.2	31.8								Baseline Offset (In Feet)
	0.2	0.0	0.0	-6.4								Incremental Change
	0.3	0.3	0.3	-6.1								Cumulative Change
1+10	39.4	39.4	39.4	32.2								Baseline Offset (In Feet)
	0.2	0.0	0.0	-7.2								Incremental Change
	-2.0	-2.0	-2.0	-9.2								Cumulative Change
1+15	39.5	39.5	39.5	36.6								Baseline Offset (In Feet)
	0.2	0.0	0.0	-2.9								Incremental Change
	1.3	1.3	1.3	-1.6								Cumulative Change
1+20	40.7	40.7	40.7	40.7								Baseline Offset (In Feet)
	0.2	0.0	0.0	0.0								Incremental Change
	1.3	1.3	1.3	1.3								Cumulative Change
1+25	42.3	42.3	42.3	42.3								Baseline Offset (In Feet)
	0.2	0.0	0.0	0.0								Incremental Change
	0.9	0.9	0.9	0.9								Cumulative Change
1+30	43.8	43.8	43.8	41.7								Baseline Offset (In Feet)
	0.2	0.0	0.0	-2.1								Incremental Change
	0.8	0.8	0.8	-1.3								Cumulative Change

Alpine CP 00
HDD West Site
Streambank Monitor

Baseline	Streambank Monitor - Top of Bank Locations											Description
Station	See Drawing CE-CP00-143 Rev 14 for Survey Baseline Location											
	7/23/2012	7/17/2013	8/10/2014	8/26/2015	Future	Future	Future	Future	Future	Future	Future	Date
1+35	44.3	44.3	44.3	40.7								Baseline Offset (In Feet)
	0.2	0.0	0.0	-3.6								Incremental Change
	0.1	0.1	0.1	-3.5								Cumulative Change
1+40	43.7	43.7	43.7	40.7								Baseline Offset (In Feet)
	0.2	0.0	0.0	-3.0								Incremental Change
	-1.6	-1.6	-1.6	-4.6								Cumulative Change
1+45	43.4	43.4	43.4	40.7								Baseline Offset (In Feet)
	0.1	0.0	0.0	-2.7								Incremental Change
	-2.3	-2.3	-2.3	-5.0								Cumulative Change
1+50	43.5	43.5	43.5	40.7								Baseline Offset (In Feet)
	0.1	0.0	0.0	-2.8								Incremental Change
	-2.2	-2.2	-2.2	-5.0								Cumulative Change
1+60	43.6	43.6	43.6	40.6								Baseline Offset (In Feet)
	-0.1	0.0	0.0	-3.0								Incremental Change
	-2.2	-2.2	-2.2	-5.2								Cumulative Change
1+65	43.5	43.5	43.5	37.8								Baseline Offset (In Feet)
	-0.1	0.0	0.0	-5.7								Incremental Change
	-2.4	-2.4	-2.4	-8.1								Cumulative Change
1+75	42.8	42.8	42.8	30.5								Baseline Offset (In Feet)
	0.1	0.0	0.0	-12.3								Incremental Change
	-3.1	-3.1	-3.1	-15.4								Cumulative Change

Alpine CP 00
HDD West Site
Streambank Monitor

Baseline	Streambank Monitor - Top of Bank Locations											Description
Station	See Drawing CE-CP00-143 Rev 14 for Survey Baseline Location											
	7/23/2012	7/17/2013	8/10/2014	8/26/2015	Future	Future	Future	Future	Future	Future	Future	Date
1+90	40.0	40.0	40.0	28.5								Baseline Offset (In Feet)
	-0.1	0.0	0.0	-11.5								Incremental Change
	-5.1	-5.1	-5.1	-16.5								Cumulative Change
1+95	38.2	38.2	38.2	29.5								Baseline Offset (In Feet)
	0.3	0.0	0.0	-8.7								Incremental Change
	-6.7	-6.7	-6.7	-15.4								Cumulative Change
2+00	38.6	38.6	38.6	31.2								Baseline Offset (In Feet)
	0.3	0.0	0.0	-7.4								Incremental Change
	-6.1	-6.1	-6.1	-13.5								Cumulative Change
2+05	38.6	38.6	38.6	32.1								Baseline Offset (In Feet)
	0.3	0.0	0.0	-6.5								Incremental Change
	-5.9	-5.9	-5.9	-12.5								Cumulative Change
2+10	37.9	37.9	37.9	32.0								Baseline Offset (In Feet)
	0.3	0.0	0.0	-5.9								Incremental Change
	-5.8	-5.8	-5.8	-11.7								Cumulative Change
2+20	36.3	36.3	36.3	31.8								Baseline Offset (In Feet)
	0.2	0.0	0.0	-4.5								Incremental Change
	-5.2	-5.2	-5.2	-9.7								Cumulative Change
2+25	35.2	35.2	35.2	31.6								Baseline Offset (In Feet)
	0.1	0.0	0.0	-3.6								Incremental Change
	-6.8	-6.8	-6.8	-10.4								Cumulative Change

Alpine CP 00
HDD West Site
Streambank Monitor

Baseline	Streambank Monitor - Top of Bank Locations											Description
Station	See Drawing CE-CP00-143 Rev 14 for Survey Baseline Location											
	7/23/2012	7/17/2013	8/10/2014	8/26/2015	Future	Future	Future	Future	Future	Future	Future	Date
2+30	34.2	34.2	34.2	31.5								Baseline Offset (In Feet)
	0.0	0.0	0.0	-2.7								Incremental Change
	-8.2	-8.2	-8.2	-10.9								Cumulative Change
2+35	33.3	33.3	33.3	30.7								Baseline Offset (In Feet)
	0.2	0.0	0.0	-2.6								Incremental Change
	-7.7	-7.7	-7.7	-10.3								Cumulative Change
2+45	33.5	33.5	33.5	29.7								Baseline Offset (In Feet)
	0.2	0.0	0.0	-3.8								Incremental Change
	-4.8	-4.8	-4.8	-8.6								Cumulative Change
2+50	34.8	34.8	34.8	30.3								Baseline Offset (In Feet)
	0.1	0.0	0.0	-4.5								Incremental Change
	-4.2	-4.2	-4.2	-8.7								Cumulative Change
2+55	36.0	36.0	36.0	30.7								Baseline Offset (In Feet)
	0.0	0.0	0.0	-5.3								Incremental Change
	-3.9	-3.9	-3.9	-9.2								Cumulative Change
2+60	35.3	35.3	35.3	30.4								Baseline Offset (In Feet)
	0.1	0.0	0.0	-4.9								Incremental Change
	-5.4	-5.4	-5.4	-10.3								Cumulative Change
2+65	34.2	34.2	34.2	30.2								Baseline Offset (In Feet)
	0.1	0.0	0.0	-4.0								Incremental Change
	-6.7	-6.7	-6.7	-10.7								Cumulative Change

Alpine CP 00
HDD West Site
Streambank Monitor

Baseline	Streambank Monitor - Top of Bank Locations											Description
Station	See Drawing CE-CP00-143 Rev 14 for Survey Baseline Location											
	7/23/2012	7/17/2013	8/10/2014	8/26/2015	Future	Future	Future	Future	Future	Future	Future	Date
2+70	33.4	33.4	33.4	30.6								Baseline Offset (In Feet)
	0.1	0.0	0.0	-2.8								Incremental Change
	-7.7	-7.7	-7.7	-10.5								Cumulative Change
2+75	33.3	33.3	33.3	32.1								Baseline Offset (In Feet)
	0.0	0.0	0.0	-1.2								Incremental Change
	-8.0	-8.0	-8.0	-9.2								Cumulative Change
2+80	34.5	34.5	34.5	33.1								Baseline Offset (In Feet)
	0.9	0.0	0.0	-1.4								Incremental Change
	-7.1	-7.1	-7.1	-8.4								Cumulative Change
2+85	37.7	37.7	37.7	30.0								Baseline Offset (In Feet)
	1.6	0.0	0.0	-7.7								Incremental Change
	-4.0	-4.0	-4.0	-11.7								Cumulative Change
2+90	38.5	38.5	38.5	33.3								Baseline Offset (In Feet)
	-0.1	0.0	0.0	-5.2								Incremental Change
	-5.0	-5.0	-5.0	-10.2								Cumulative Change
3+00	39.3	39.3	39.3	37.5								Baseline Offset (In Feet)
	-1.0	0.0	0.0	-1.8								Incremental Change
	-7.7	-7.7	-7.7	-9.5								Cumulative Change
3+10	35.0	35.0	35.0	34.5								Baseline Offset (In Feet)
	-4.2	0.0	0.0	-0.5								Incremental Change
	-12.1	-12.1	-12.1	-12.6								Cumulative Change

Alpine CP 00
HDD West Site
Streambank Monitor

Baseline	Streambank Monitor - Top of Bank Locations											Description
Station	See Drawing CE-CP00-143 Rev 14 for Survey Baseline Location											
	7/23/2012	7/17/2013	8/10/2014	8/26/2015	Future	Future	Future	Future	Future	Future	Future	Date
3+15	33.5	33.5	33.5	33.5								Baseline Offset (In Feet)
	-5.4	0.0	0.0	0.0								Incremental Change
	-13.9	-13.9	-13.9	-13.9								Cumulative Change
3+25	38.3	38.3	38.3	36.5								Baseline Offset (In Feet)
	1.6	0.0	0.0	-1.8								Incremental Change
	-9.0	-9.0	-9.0	-10.8								Cumulative Change
3+30	38.2	38.2	38.2	36.1								Baseline Offset (In Feet)
	3.1	0.0	0.0	-2.1								Incremental Change
	-7.2	-7.2	-7.2	-9.3								Cumulative Change
3+35	38.2	38.2	38.2	35.7								Baseline Offset (In Feet)
	2.6	0.0	0.0	-2.5								Incremental Change
	-5.3	-5.3	-5.3	-7.7								Cumulative Change
3+40	38.9	38.9	38.9	34.3								Baseline Offset (In Feet)
	0.1	0.0	0.0	-4.6								Incremental Change
	-6.0	-6.0	-6.0	-10.5								Cumulative Change
3+45	38.8	38.7	38.7	33.0								Baseline Offset (In Feet)
	0.0	-0.1	0.0	-5.7								Incremental Change
	-6.4	-6.5	-6.5	-12.2								Cumulative Change
3+50	38.7	38.2	38.2	31.7								Baseline Offset (In Feet)
	0.0	-0.5	0.0	-6.5								Incremental Change
	-6.2	-6.7	-6.7	-13.2								Cumulative Change

Alpine CP 00
HDD West Site
Streambank Monitor

Baseline	Streambank Monitor - Top of Bank Locations											Description
Station	See Drawing CE-CP00-143 Rev 14 for Survey Baseline Location											
	7/23/2012	7/17/2013	8/10/2014	8/26/2015	Future	Future	Future	Future	Future	Future	Future	Date
3+60	38.4	37.3	37.3	30.2								Baseline Offset (In Feet)
	0.0	-1.1	0.0	-7.1								Incremental Change
	-5.7	-6.8	-6.8	-13.9								Cumulative Change
3+70	26.0	26.0	26.0	26.0								Baseline Offset (In Feet)
	-0.2	0.0	0.0	0.0								Incremental Change
	-18.7	-18.7	-18.7	-18.7								Cumulative Change
3+75	23.6	23.6	23.6	21.7								Baseline Offset (In Feet)
	-0.2	0.0	0.0	-1.9								Incremental Change
	0.0	0.0	0.0	-1.9								Cumulative Change
3+85	23.0	23.0	23.0	15.2								Baseline Offset (In Feet)
	0.0	0.0	0.0	-7.8								Incremental Change
	-0.1	-0.1	-0.1	-7.9								Cumulative Change
4+00	26.4	26.4	26.4	19.7								Baseline Offset (In Feet)
	0.1	0.0	0.0	-6.7								Incremental Change
	-2.0	-2.0	-2.0	-8.7								Cumulative Change
4+10	32.1	32.1	32.1	30.8								Baseline Offset (In Feet)
	-0.1	0.0	0.0	-1.3								Incremental Change
	-5.3	-5.3	-5.3	-6.6								Cumulative Change
4+25	38.0	38.0	38.0	37.8								Baseline Offset (In Feet)
	-0.1	0.0	0.0	-0.2								Incremental Change
	-8.0	-8.0	-8.0	-8.1								Cumulative Change

Alpine CP 00
HDD West Site
Streambank Monitor

Baseline	Streambank Monitor - Top of Bank Locations											Description
Station	See Drawing CE-CP00-143 Rev 14 for Survey Baseline Location											
	7/23/2012	7/17/2013	8/10/2014	8/26/2015	Future	Future	Future	Future	Future	Future	Future	Date
4+30	39.5	39.5	39.5	38.7								Baseline Offset (In Feet)
	-0.1	0.0	0.0	-0.8								Incremental Change
	-7.8	-7.8	-7.8	-8.6								Cumulative Change
4+35	40.9	40.9	40.9	39.4								Baseline Offset (In Feet)
	-0.1	0.0	0.0	-1.5								Incremental Change
	-7.9	-7.9	-7.9	-9.4								Cumulative Change
4+40	41.6	41.6	41.6	39.7								Baseline Offset (In Feet)
	0.0	0.0	0.0	-1.9								Incremental Change
	-9.3	-9.3	-9.3	-11.2								Cumulative Change

*****Note:** Survey completed on 4/7/02 was used for baseline data to compute Incremental/Cumulative Change. Negative numbers indicate erosion.

Alpine CP 00
HDD West Site
Pilecap Monitor

Pile Cap Designation	Pile Cap Monitor - Bottom of Pile Cap Locations									Description
	6/20/2004	8/4/2005	8/19/2006	8/31/2007	8/7/2008	8/3/2009	7/8/2010	8/3/2011	7/23/2012	Date
W-01 NE Cor	26.389	26.389	26.391	26.398	26.397	26.401	26.401	26.413	26.420	Bottom of Pile Cap (In Feet)
		0.000	0.002	0.007	-0.001	0.004	0.000	0.012	0.007	Incremental Change
		0.000	0.002	0.009	0.008	0.012	0.012	0.024	0.031	Cumulative Change
W-02 NE Cor	26.391	26.390	26.390	26.400	26.397	26.403	26.401	26.416	26.420	Bottom of Pile Cap (In Feet)
		-0.001	0.000	0.010	-0.003	0.006	-0.002	0.015	0.004	Incremental Change
		-0.001	-0.001	0.009	0.006	0.012	0.010	0.025	0.029	Cumulative Change
W-03 NE Cor	26.391	26.391	26.394	26.400	26.398	26.403	26.401	26.414	26.420	Bottom of Pile Cap (In Feet)
		0.000	0.003	0.006	-0.002	0.005	-0.002	0.013	0.006	Incremental Change
		0.000	0.003	0.009	0.007	0.012	0.010	0.023	0.029	Cumulative Change
W-04 NE Cor	26.389	26.388	26.390	26.394	26.394	26.396	26.397	26.407	26.415	Bottom of Pile Cap (In Feet)
		-0.001	0.002	0.004	0.000	0.002	0.001	0.010	0.008	Incremental Change
		-0.001	0.001	0.005	0.005	0.007	0.008	0.018	0.026	Cumulative Change
W-05 NE Cor	26.383	26.378	26.386	26.390	26.389	26.393	26.393	26.404	26.410	Bottom of Pile Cap (In Feet)
		-0.005	0.008	0.004	-0.001	0.004	0.000	0.011	0.006	Incremental Change
		-0.005	0.003	0.007	0.006	0.010	0.010	0.021	0.027	Cumulative Change
W-06 NE Cor	26.395	26.391	26.394	26.400	26.397	26.401	26.401	26.412	26.416	Bottom of Pile Cap (In Feet)
		-0.004	0.003	0.006	-0.003	0.004	0.000	0.011	0.004	Incremental Change
		-0.004	-0.001	0.005	0.002	0.006	0.006	0.017	0.021	Cumulative Change
W-07 NE Cor	26.397	26.393	26.402	26.406	26.404	26.408	26.405	26.419	26.423	Bottom of Pile Cap (In Feet)
		-0.004	0.009	0.004	-0.002	0.004	-0.003	0.014	0.004	Incremental Change
		-0.004	0.005	0.009	0.007	0.011	0.008	0.022	0.026	Cumulative Change

Alpine CP 00
HDD West Site
Pilecap Monitor

Pile Cap Designation	Pile Cap Monitor - Bottom of Pile Cap Locations									Description
	6/20/2004	8/4/2005	8/19/2006	8/31/2007	8/7/2008	8/3/2009	7/8/2010	8/3/2011	7/23/2012	Date
W-08 NE Cor	26.403	26.401	26.404	26.408	26.406	26.412	26.410	26.423	26.422	Bottom of Pile Cap (In Feet)
		-0.002	0.003	0.004	-0.002	0.006	-0.002	0.013	-0.001	Incremental Change
		-0.002	0.001	0.005	0.003	0.009	0.007	0.020	0.019	Cumulative Change
W-09 NE Cor	31.291	31.294	31.292	31.290	31.292	31.294	31.296	31.301	31.297	Bottom of Pile Cap (In Feet)
		0.003	-0.002	-0.002	0.002	0.002	0.002	0.005	-0.004	Incremental Change
		0.003	0.001	-0.001	0.001	0.003	0.005	0.010	0.006	Cumulative Change
W-10 NE Cor	31.266	31.261	31.261	31.264	31.263	31.263	31.262	31.264	31.263	Bottom of Pile Cap (In Feet)
		-0.005	0.000	0.003	-0.001	0.000	-0.001	0.002	-0.001	Incremental Change
		-0.005	-0.005	-0.002	-0.003	-0.003	-0.004	-0.002	-0.003	Cumulative Change
W-11 NE Cor	31.299	31.300	31.288	31.294	31.299	31.304	31.299	31.304	31.302	Bottom of Pile Cap (In Feet)
		0.001	-0.012	0.006	0.005	0.005	-0.005	0.005	-0.002	Incremental Change
		0.001	-0.011	-0.005	0.000	0.005	0.000	0.005	0.003	Cumulative Change
W-12 NE Cor	31.301	31.301	31.298	31.294	31.297	31.298	31.296	31.301	31.298	Bottom of Pile Cap (In Feet)
		0.000	-0.003	-0.004	0.003	0.001	-0.002	0.005	-0.003	Incremental Change
		0.000	-0.003	-0.007	-0.004	-0.003	-0.005	0.000	-0.003	Cumulative Change
W-13 NE Cor	27.377	27.373	27.383	27.393	27.389	27.391	27.394	27.401	27.408	Bottom of Pile Cap (In Feet)
		-0.004	0.010	0.010	-0.004	0.002	0.003	0.007	0.007	Incremental Change
		-0.004	0.006	0.016	0.012	0.014	0.017	0.024	0.031	Cumulative Change
W-14 NE Cor	27.428	27.423	27.433	27.439	27.442	27.442	27.454	27.455	27.462	Bottom of Pile Cap (In Feet)
		-0.005	0.010	0.006	0.003	0.000	0.012	0.001	0.007	Incremental Change
		-0.005	0.005	0.011	0.014	0.014	0.026	0.027	0.034	Cumulative Change

Alpine CP 00
HDD West Site
Pilecap Monitor

Pile Cap Designation	Pile Cap Monitor - Bottom of Pile Cap Locations									Description
	6/20/2004	8/4/2005	8/19/2006	8/31/2007	8/7/2008	8/3/2009	7/8/2010	8/3/2011	7/23/2012	Date
W-15 NE Cor	27.413	27.407	27.407	27.425	27.428	27.425	27.434	27.436	27.442	Bottom of Pile Cap (In Feet)
		-0.006	0.000	0.018	0.003	-0.003	0.009	0.002	0.006	Incremental Change
		-0.006	-0.006	0.012	0.015	0.012	0.021	0.023	0.029	Cumulative Change
W-16 NE Cor	27.389	27.385	27.392	27.416	27.400	27.404	27.410	27.414	27.421	Bottom of Pile Cap (In Feet)
		-0.004	0.007	0.024	-0.016	0.004	0.006	0.004	0.007	Incremental Change
		-0.004	0.003	0.027	0.011	0.015	0.021	0.025	0.032	Cumulative Change
W-17 NE Cor	28.940	28.947	28.944	28.940	28.945	28.946	28.942	28.948	28.943	Bottom of Pile Cap (In Feet)
		0.007	-0.003	-0.004	0.005	0.001	-0.004	0.006	-0.005	Incremental Change
		0.007	0.004	0.000	0.005	0.006	0.002	0.008	0.003	Cumulative Change
W-18 NE Cor	28.965	28.972	28.968	28.965	28.970	28.969	28.968	28.968	28.972	Bottom of Pile Cap (In Feet)
		0.007	-0.004	-0.003	0.005	-0.001	-0.001	0.000	0.004	Incremental Change
		0.007	0.003	0.000	0.005	0.004	0.003	0.003	0.007	Cumulative Change
W-19 NE Cor	28.959	28.962	28.960	28.956	28.958	28.958	28.955	28.955	28.952	Bottom of Pile Cap (In Feet)
		0.003	-0.002	-0.004	0.002	0.000	-0.003	0.000	-0.003	Incremental Change
		0.003	0.001	-0.003	-0.001	-0.001	-0.004	-0.004	-0.007	Cumulative Change
W-20 NE Cor	28.964	28.965	28.965	28.965	28.966	28.964	28.964	28.963	28.964	Bottom of Pile Cap (In Feet)
		0.001	0.000	0.000	0.001	-0.002	0.000	-0.001	0.001	Incremental Change
		0.001	0.001	0.001	0.002	0.000	0.000	-0.001	0.000	Cumulative Change
Note: Survey completed on 6/20/2004 was used to compute Incremental/Cumulative Change. Positive numbers indicate subsidence.										
All Pile Caps are 0.083' Thick. Add Cap thickness to shown elevations for Top of Pile Cap Elevations										

Alpine CP 00
HDD West Site
Pilecap Monitor

Pile Cap Designation	Pile Cap Monitor - Bottom of Pile Cap Locations									Description
	7/17/2013	8/9/2014	8/25/2015	Future	Future	Future	Future	Future	Future	Date
W-01 NE Cor	26.420	26.427	26.431							Bottom of Pile Cap (In Feet)
	0.000	0.007	0.004							Incremental Change
	0.031	0.038	0.042							Cumulative Change
W-02 NE Cor	26.422	26.427	26.436							Bottom of Pile Cap (In Feet)
	0.002	0.005	0.009							Incremental Change
	0.031	0.036	0.045							Cumulative Change
W-03 NE Cor	26.422	26.428	26.435							Bottom of Pile Cap (In Feet)
	0.002	0.006	0.007							Incremental Change
	0.031	0.037	0.044							Cumulative Change
W-04 NE Cor	26.419	26.424	26.429							Bottom of Pile Cap (In Feet)
	0.004	0.005	0.005							Incremental Change
	0.030	0.035	0.040							Cumulative Change
W-05 NE Cor	26.413	26.418	26.426							Bottom of Pile Cap (In Feet)
	0.003	0.005	0.008							Incremental Change
	0.030	0.035	0.043							Cumulative Change
W-06 NE Cor	26.422	26.425	26.432							Bottom of Pile Cap (In Feet)
	0.006	0.003	0.007							Incremental Change
	0.027	0.030	0.037							Cumulative Change
W-07 NE Cor	26.426	26.432	26.439							Bottom of Pile Cap (In Feet)
	0.003	0.006	0.007							Incremental Change
	0.029	0.035	0.042							Cumulative Change

Alpine CP 00
HDD West Site
Pilecap Monitor

Pile Cap Designation	Pile Cap Monitor - Bottom of Pile Cap Locations									Description
	7/17/2013	8/9/2014	8/25/2015	Future	Future	Future	Future	Future	Future	Date
W-08 NE Cor	26.430	26.435	26.443							Bottom of Pile Cap (In Feet)
	0.008	0.005	0.008							Incremental Change
	0.027	0.032	0.040							Cumulative Change
W-09 NE Cor	31.303	31.305	31.307							Bottom of Pile Cap (In Feet)
	0.006	0.002	0.002							Incremental Change
	0.012	0.014	0.016							Cumulative Change
W-10 NE Cor	31.266	31.266	31.265							Bottom of Pile Cap (In Feet)
	0.003	0.000	-0.001							Incremental Change
	0.000	0.000	-0.001							Cumulative Change
W-11 NE Cor	31.310	31.310	31.309							Bottom of Pile Cap (In Feet)
	0.008	0.000	-0.001							Incremental Change
	0.011	0.011	0.010							Cumulative Change
W-12 NE Cor	31.302	31.303	31.302							Bottom of Pile Cap (In Feet)
	0.004	0.001	-0.001							Incremental Change
	0.001	0.002	0.001							Cumulative Change
W-13 NE Cor	27.409	27.413	27.420							Bottom of Pile Cap (In Feet)
	0.001	0.004	0.007							Incremental Change
	0.032	0.036	0.043							Cumulative Change
W-14 NE Cor	27.463	27.468	27.474							Bottom of Pile Cap (In Feet)
	0.001	0.005	0.006							Incremental Change
	0.035	0.040	0.046							Cumulative Change

Alpine CP 00
HDD West Site
Pilecap Monitor

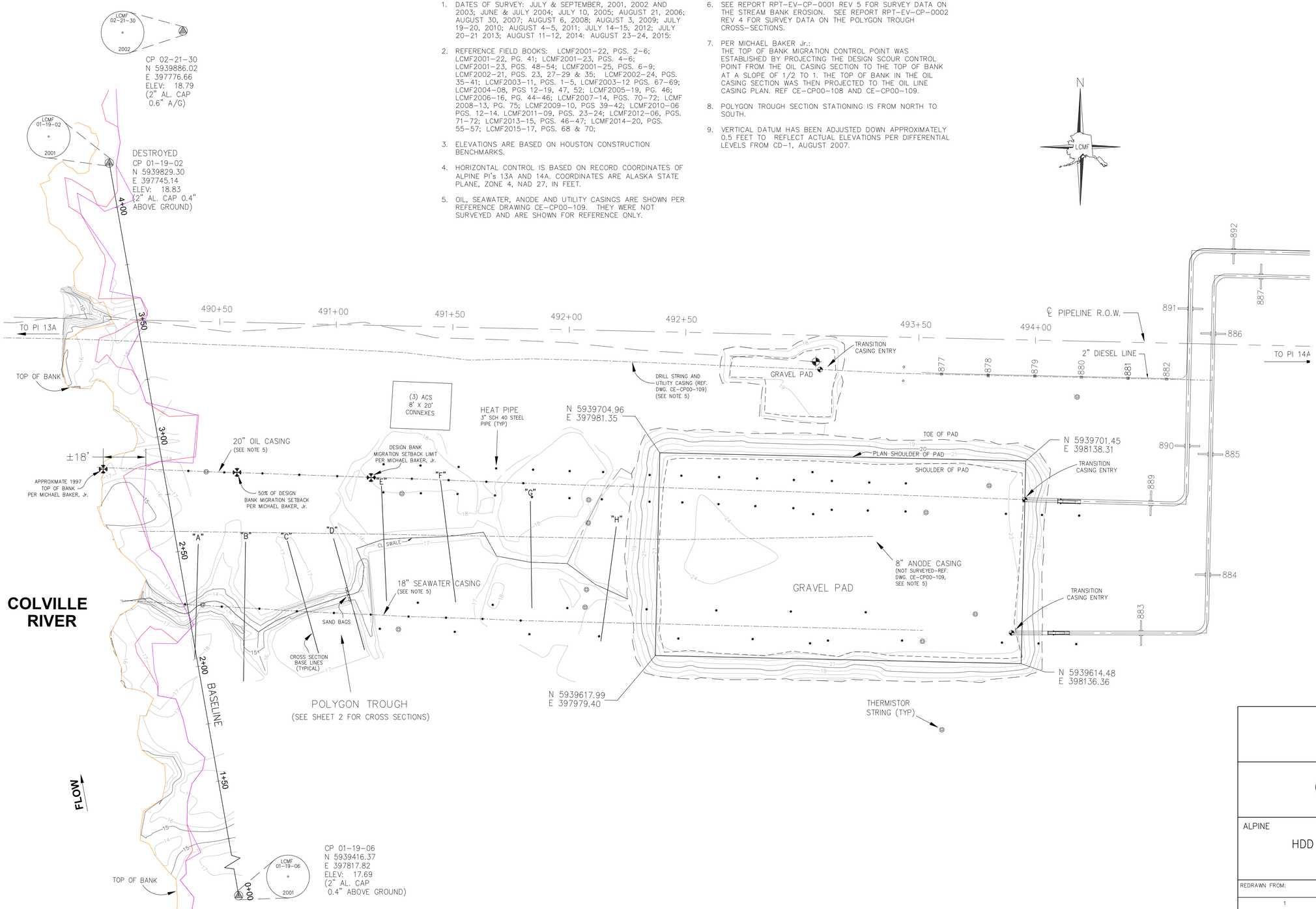
Pile Cap Designation	Pile Cap Monitor - Bottom of Pile Cap Locations									Description
	7/17/2013	8/9/2014	8/25/2015	Future	Future	Future	Future	Future	Future	Date
W-15 NE Cor	27.448	27.451	27.458							Bottom of Pile Cap (In Feet)
	0.006	0.003	0.007							Incremental Change
	0.035	0.038	0.045							Cumulative Change
W-16 NE Cor	27.421	27.428	27.432							Bottom of Pile Cap (In Feet)
	0.000	0.007	0.004							Incremental Change
	0.032	0.039	0.043							Cumulative Change
W-17 NE Cor	28.957	28.952	28.953							Bottom of Pile Cap (In Feet)
	0.014	-0.005	0.001							Incremental Change
	0.017	0.012	0.013							Cumulative Change
W-18 NE Cor	28.982	28.982	28.984							Bottom of Pile Cap (In Feet)
	0.010	0.000	0.002							Incremental Change
	0.017	0.017	0.019							Cumulative Change
W-19 NE Cor	28.970	28.963	28.963							Bottom of Pile Cap (In Feet)
	0.018	-0.007	0.000							Incremental Change
	0.011	0.004	0.004							Cumulative Change
W-20 NE Cor	28.973	28.973	28.973							Bottom of Pile Cap (In Feet)
	0.009	0.000	0.000							Incremental Change
	0.009	0.009	0.009							Cumulative Change
Note: Survey completed on 6/20/2004 was used to compute Incremental/Cumulative Change. Positive numbers indicate subsidence.										
All Pile Caps are 0.083' Thick. Add Cap thickness to shown elevations for Top of Pile Cap Elevations										

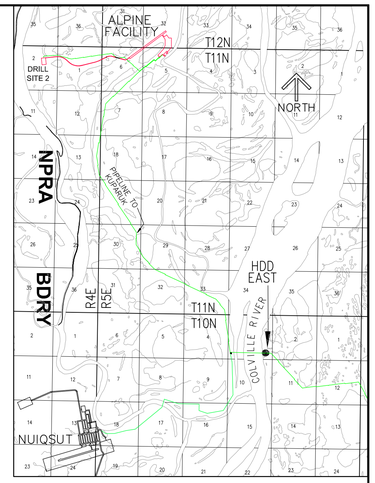
Appendix C HDD East Bank Erosion Survey

JOB NO:	SUB JOB NO:	DRAWING NO:
02-205		CE-CP00-134

NOTES:

1. DATES OF SURVEY: JULY & SEPTEMBER, 2001, 2002 AND 2003; JUNE & JULY 2004; JULY 10, 2005; AUGUST 21, 2006; AUGUST 30, 2007; AUGUST 6, 2008; AUGUST 3, 2009; JULY 19–20, 2010; AUGUST 4–5, 2011; JULY 14–15, 2012; JULY 20–21 2013; AUGUST 11–12, 2014: AUGUST 23–24, 2015:
2. 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, PG. 46; LCMF2006–16, PG. 44–46; LCMF2007–14, PGS. 70–72; LCMF 2008–13, PG. 75; LCMF2009–10, PGS 39–42; LCMF2010–06 PGS. 12–14. LCMF2011–09, PGS. 23–24; LCMF2012–06, PGS. 71–72; LCMF2013–15, PGS. 46–47; LCMF2014–20, PGS. 55–57; LCMF2015–17, PGS. 68 & 70;
3. ELEVATIONS ARE BASED ON HOUSTON CONSTRUCTION BENCHMARKS.
4. HORIZONTAL CONTROL IS BASED ON RECORD COORDINATES OF ALPINE PI's 13A AND 14A. COORDINATES ARE ALASKA STATE PLANE, ZONE 4, NAD 27, IN FEET.
5. OIL, SEAWATER, ANODE AND UTILITY CASINGS ARE SHOWN PER REFERENCE DRAWING CE–CP00–109. THEY WERE NOT SURVEYED AND ARE SHOWN FOR REFERENCE ONLY.
6. 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.
7. PER MICHAEL BAKER Jr.: THE TOP OF BANK MIGRATION CONTROL POINT WAS ESTABLISHED BY PROJECTING THE DESIGN SCOUR CONTROL POINT FROM THE OIL CASING SECTION TO THE TOP OF BANK AT A SLOPE OF 1/2 TO 1. THE TOP OF BANK IN THE OIL CASING SECTION WAS THEN PROJECTED TO THE OIL LINE CASING PLAN. REF CE–CP00–108 AND CE–CP00–109.
8. POLYGON TROUGH SECTION STATIONING IS FROM NORTH TO SOUTH.
9. VERTICAL DATUM HAS BEEN ADJUSTED DOWN APPROXIMATELY 0.5 FEET TO REFLECT ACTUAL ELEVATIONS PER DIFFERENTIAL LEVELS FROM CD–1, AUGUST 2007.





VICINITY MAP
NO SCALE

LEGEND

- HEAT PIPE
- THERMISTOR STRING
- TRANSITION CASING ENTRY POINT
- 1' CONTOUR LINES
- PILE
- SURVEY CONTROL
- MICHAEL BAKER Jr. MIGRATION POINT
- TOP OF BANK 9/8/01
- TOP OF BANK 08/12/14
- TOP OF BANK 08/24/15

GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
1 inch = 20 ft.

KUUKPIK LCMF LLC
Alpine Survey Office

ConocoPhillips Alaska, Inc.

ALPINE | MODULE: CP00 | UNIT: CP

HDD BANK EROSION TOPO/MONITORING
HDD SITE – EAST
ALPINE FACILITY

REDRAWN FROM: | CONSTRUCTION SHEET OF

1 2 3 4 5 6
DO NOT SCALE — ABOVE SCALE FOR REFERENCE ONLY

DATE:	DRAWN: GD/CZ	DESIGN:	ECM NO: A01007ACS
7/31/01	CHECKED: JZ		CC NO:
SCALE: 1"=20'	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: 14

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

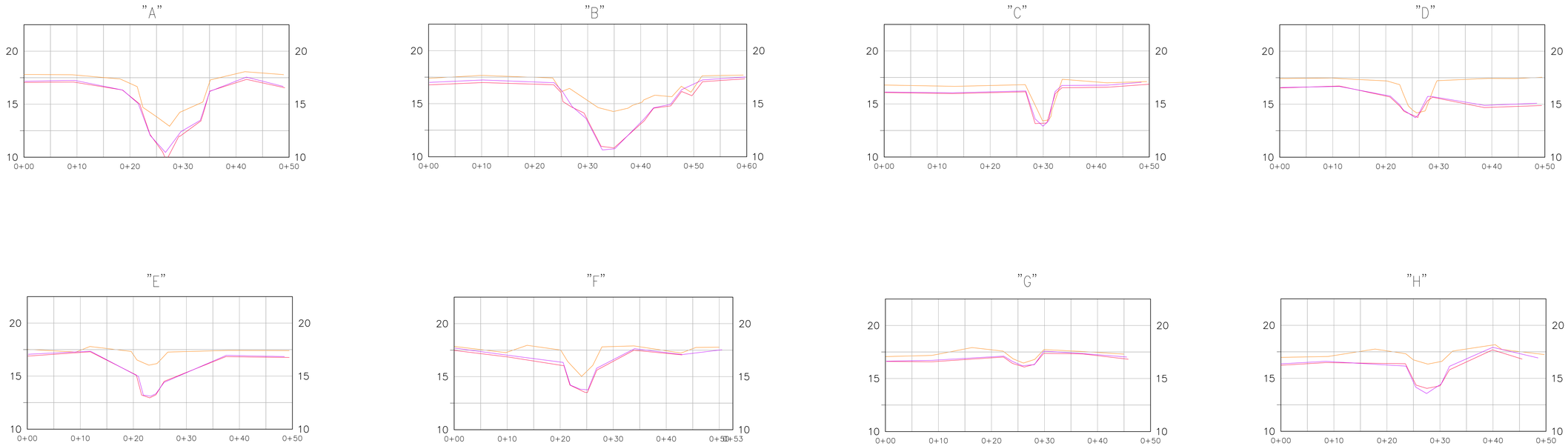
FORM: DSIZE

REV	DATE	REVISIONS	BY	CHK	JOB ENGR	PROJ ENGR	CUST APP
11	7/15/12	UPDATED PER 9101901ACS	AG	GD			
10	8/5/11	UPDATED PER 8292382ACS	AG	DB			
9	7/21/10	ISSUED PER 7224503ACS	AG	DB			
8	8/5/09	UPDATED PER 6370813ACS	AG	GD			
7	8/6/08	UPDATED PER 5538034ACS	CZ	GD			
6	8/30/07	UPDATED PER 4810351ACS	CZ	DB			
5	8/25/06	UPDATED PER 4116808ACS	AG	DB			
4	7/11/05	UPDATED PER 3391755ACS	CZ	GD			
3	6/27/04	ISSUED PER 2390460ACS	CZ	BD			
14	9/01/15	UPDATED PER 20967693ACS	CZ	DB			
13	8/14/2014	UPDATED PER 20306694ACS	TB	GD			
12	7/21/13	UPDATED PER 9670829ACS	CZ	DB			

JOB NO:	SUB JOB NO:	DRAWING NO:
02-205		CE-CP00-134

CROSS SECTIONS, POLYGON TROUGH

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

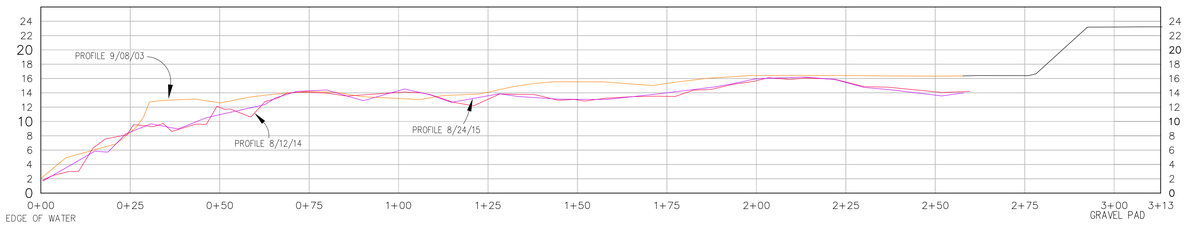


LEGEND

- CROSS SECTION 9/8/03
- CROSS SECTION 8/12/14
- CROSS SECTION 8/24/15

CENTERLINE PROFILE, POLYGON TROUGH

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



KUUKPIK LCMF LLC
810 E. 82nd Ave. · Anchorage, Alaska 99518 · (907) 273-1830
Alpine Survey Office

ConocoPhillips Alaska, Inc.

ALPINE MODULE: CP00 UNIT: CP

HDD BANK EROSION TOPO/MONITORING
HDD SITE – EAST
ALPINE FACILITY

REDRAWN FROM: CONSTRUCTION SHEET OF

1 2 3 4 5 6
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: 13

FORM: DSIZE

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

REV	DATE	REVISIONS	BY	CHK	JOB ENGR	PROJ ENGR	CUST APP
12	8/14/14	UPDATED PER 20306694ACS	TB	GD			
11	7/21/13	UPDATED PER 9670829ACS	CZ	DB			
10	7/16/12	UPDATED PER 9101901ACS	AG	GD			
9	8/5/11	UPDATED PER 8292382ACS	AG	DB			
8	7/21/10	ISSUED PER 7224503ACS	AG	DB			
7	8/6/09	UPDATED PER 6370813ACS	AG	GD			
6	8/6/08	UPDATED PER 5538034ACS	CZ	GD			
5	8/30/07	UPDATED PER 4810351ACS	CZ	DB			
4	8/25/06	UPDATED PER 4116808ACS	AG	DB			
3	7/28/05	UPDATED PER 3391755ACS	CZ	GD			
2	7/9/04	ISSUED PER 2390460ACS	AG	GD			
13	9/01/15	UPDATED PER 20967693ACS	CZ	DB			

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	Streambank Monitor - Top of Bank Locations										Description
Station	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	-11.3	0.0	Incremental Change
			-0.8	0.1	-0.2	-3.7	-9.7	-9.7	-21.0	-21.0	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	Streambank Monitor - Top of Bank Locations										Description
Station	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	-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	Streambank Monitor - Top of Bank Locations										Description
Station	See Drawing CE-CP00-134 Rev 12 for Survey Baseline Stations										
	6/19/2004	7/10/2005	8/21/2006	8/30/2007	8/6/2008	8/3/2009	7/20/2010	8/4/2011	7/14/2012	7/21/2013	Date
0+10	-25.3	-25.3	-25.3	-25.3	-25.3	-25.6	-25.6	-23.9	-24.0	-24.0	Baseline Offset (In Feet)
	0.0	0.0	0.0	0.0	0.0	0.3	0.0	-1.7	0.1	0.0	Incremental Change
	0.0	0.0	0.0	0.0	0.0	0.3	0.3	-1.4	-1.4	-1.4	Cumulative Change
0+20	-30.9	-30.9	-30.9	-30.9	-30.9	-31.0	-29.1	-29.2	-29.2	-29.2	Baseline Offset (In Feet)
	0.0	0.0	0.0	0.0	0.0	0.1	-1.9	0.1	0.0	0.0	Incremental Change
	-1.2	-1.2	-1.2	-1.2	-1.2	-1.1	-3.0	-2.9	-2.9	-2.9	Cumulative Change
0+25	-38.2	-37.0	-37.0	-37.0	-37.0	-34.1	-29.9	-29.2	-29.2	-29.2	Baseline Offset (In Feet)
	0.0	-1.2	0.0	0.0	0.0	-2.9	-4.2	-0.7	0.0	0.0	Incremental Change
	0.0	-1.2	-1.2	-1.2	-1.2	-4.1	-8.3	-9.0	-9.1	-9.1	Cumulative Change
0+30	-41.1	-36.9	-36.9	-36.9	-36.9	-34.3	-31.4	-29.3	-29.3	-29.3	Baseline Offset (In Feet)
	0.0	-4.2	0.0	0.0	0.0	-2.6	-2.9	-2.2	0.0	0.0	Incremental Change
	0.0	-4.2	-4.2	-4.2	-4.2	-6.8	-9.7	-11.8	-11.8	-11.8	Cumulative Change
0+40	-37.7	-36.5	-35.1	-35.1	-35.1	-34.8	-34.3	-29.4	-29.4	-29.4	Baseline Offset (In Feet)
	0.0	-1.2	-1.4	0.0	0.0	-0.3	-0.5	-4.9	0.0	0.0	Incremental Change
	0.0	-1.2	-2.6	-2.6	-2.6	-2.9	-3.4	-8.3	-8.2	-8.2	Cumulative Change
0+50	-30.3	-30.3	-30.3	-30.3	-30.3	-30.3	-30.3	-30.1	-30.1	-30.1	Baseline Offset (In Feet)
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	Incremental Change
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.2	-0.2	Cumulative Change
0+60	-27.5	-27.5	-27.5	-27.5	-27.5	-27.5	-27.5	-25.3	-25.4	-25.4	Baseline Offset (In Feet)
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.2	0.0	0.0	Incremental Change
	-0.5	-0.5	-0.5	-0.5	-0.5	-0.4	-0.5	-2.7	-2.6	-2.6	Cumulative Change

Alpine CP 00
HDD East Site
Streambank Monitor

Baseline	Streambank Monitor - Top of Bank Locations										Description
Station	See Drawing CE-CP00-134 Rev 12 for Survey Baseline Stations										
	6/19/2004	7/10/2005	8/21/2006	8/30/2007	8/6/2008	8/3/2009	7/20/2010	8/4/2011	7/14/2012	7/21/2013	Date
0+65	-23.9	-23.4	-23.4	-23.4	-23.4	-23.4	-23.4	-19.9	-19.9	-19.9	Baseline Offset (In Feet)
	0.0	-0.5	0.0	0.0	0.0	0.0	0.0	-3.5	0.0	0.0	Incremental Change
	-16.0	-16.4	-16.4	-16.4	-16.4	-16.4	-16.4	-19.9	-19.9	-19.9	Cumulative Change
0+70	-20.0	-16.2	-16.2	-16.2	-16.2	-16.2	-16.2	-16.2	-16.2	-16.2	Baseline Offset (In Feet)
	0.0	-3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Incremental Change
	-12.4	-16.2	-16.2	-16.2	-16.2	-16.2	-16.2	-16.2	-16.2	-16.2	Cumulative Change
0+75	-21.0	-18.0	-18.0	-18.0	-18.0	-18.0	-18.0	-17.8	-17.8	-17.8	Baseline Offset (In Feet)
	-0.1	-3.0	0.1	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	Incremental Change
	-6.1	-9.1	-9.1	-9.1	-9.1	-9.1	-9.1	-9.3	-9.3	-9.3	Cumulative Change
0+80	-22.4	-22.4	-22.4	-22.4	-22.4	-22.4	-22.1	-21.7	-21.6	-21.6	Baseline Offset (In Feet)
	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	-0.4	-0.1	0.0	Incremental Change
	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0	-4.3	-4.8	-4.8	-4.8	Cumulative Change
0+90	-27.8	-27.8	-27.2	-27.2	-27.2	-27.2	-26.5	-23.1	-23.1	-23.1	Baseline Offset (In Feet)
	-1.5	0.0	-0.6	0.0	0.0	0.0	-0.7	-3.4	0.0	0.0	Incremental Change
	-1.5	-1.5	-2.0	-2.0	-2.0	-2.0	-2.7	-6.1	-6.1	-6.1	Cumulative Change
1+00	-26.7	-26.7	-26.7	-26.7	-26.7	-26.7	-25.5	-20.0	-20.0	-20.0	Baseline Offset (In Feet)
	0.0	0.0	0.0	0.0	0.0	0.0	-1.2	-5.5	0.0	0.0	Incremental Change
	0.0	0.0	0.0	0.0	0.0	0.0	-1.2	-6.7	-6.7	-6.7	Cumulative Change
1+10	-23.9	-23.9	-23.9	-23.9	-23.9	-23.9	-23.7	-23.0	-23.0	-23.0	Baseline Offset (In Feet)
	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.7	0.0	0.0	Incremental Change
	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7	-1.9	-2.6	-2.6	-2.6	Cumulative Change

Alpine CP 00
HDD East Site
Streambank Monitor

Baseline	Streambank Monitor - Top of Bank Locations										Description
Station	See Drawing CE-CP00-134 Rev 12 for Survey Baseline Stations										
	6/19/2004	7/10/2005	8/21/2006	8/30/2007	8/6/2008	8/3/2009	7/20/2010	8/4/2011	7/14/2012	7/21/2013	Date
1+15	-20.8	-20.2	-20.2	-20.2	-20.2	-20.2	-20.2	-20.3	-20.3	-20.3	Baseline Offset (In Feet)
	0.0	-0.7	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	Incremental Change
	-6.8	-7.4	-7.4	-7.4	-7.4	-7.4	-7.4	-7.3	-7.3	-7.3	Cumulative Change
1+20	-21.4	-18.2	-18.2	-18.2	-18.2	-18.8	-18.5	-18.6	-18.6	-18.6	Baseline Offset (In Feet)
	0.0	-3.2	0.0	0.0	0.0	0.6	-0.3	0.1	0.0	0.0	Incremental Change
	-14.1	-17.3	-17.3	-17.3	-17.3	-16.7	-17.0	-16.9	-16.9	-16.9	Cumulative Change
1+25	-18.1	-16.4	-16.4	-16.4	-16.4	-16.4	-16.4	-16.1	-16.2	-16.2	Baseline Offset (In Feet)
	0.0	-1.7	0.0	0.0	0.0	0.0	0.0	-0.3	0.0	0.0	Incremental Change
	-20.6	-22.3	-22.3	-22.3	-22.3	-22.3	-22.3	-22.6	-22.6	-22.6	Cumulative Change
1+30	-17.3	-17.0	-17.0	-17.0	-17.0	-17.0	-17.0	-16.3	-16.3	-16.3	Baseline Offset (In Feet)
	0.0	-0.3	0.0	0.0	0.0	0.0	0.0	-0.7	0.0	0.0	Incremental Change
	-20.5	-20.8	-20.8	-20.8	-20.8	-20.8	-20.8	-21.5	-21.5	-21.5	Cumulative Change
1+40	-17.1	-15.8	-15.8	-15.8	-15.8	-16.0	-16.0	-15.4	-15.4	-15.4	Baseline Offset (In Feet)
	0.0	-1.3	0.0	0.0	0.0	0.2	0.0	-0.6	0.0	0.0	Incremental Change
	-16.7	-18.1	-18.0	-18.0	-18.0	-17.8	-17.8	-18.5	-18.5	-18.5	Cumulative Change
1+45	-16.1	-14.3	-14.3	-14.3	-14.3	-14.3	-14.3	-14.1	-14.1	-14.1	Baseline Offset (In Feet)
	0.0	-1.8	0.0	0.0	0.0	0.0	0.0	-0.3	0.0	0.0	Incremental Change
	-12.1	-13.9	-13.9	-13.9	-13.9	-13.9	-13.9	-14.1	-14.1	-14.1	Cumulative Change
1+50	-13.8	-13.4	-13.4	-13.4	-13.4	-13.4	-13.4	-11.7	-11.7	-11.7	Baseline Offset (In Feet)
	0.0	-0.4	0.0	0.0	0.0	0.0	0.0	-1.7	0.0	0.0	Incremental Change
	-9.9	-10.3	-10.3	-10.3	-10.3	-10.3	-10.3	-12.0	-12.0	-12.0	Cumulative Change

Alpine CP 00
HDD East Site
Streambank Monitor

Baseline	Streambank Monitor - Top of Bank Locations										Description
Station	See Drawing CE-CP00-134 Rev 12 for Survey Baseline Stations										
	6/19/2004	7/10/2005	8/21/2006	8/30/2007	8/6/2008	8/3/2009	7/20/2010	8/4/2011	7/14/2012	7/21/2013	Date
1+55	-11.5	-7.1	-7.1	-7.1	-7.1	-7.5	-7.5	-7.0	-7.0	-7.0	Baseline Offset (In Feet)
	0.0	-4.4	0.0	0.0	0.0	0.4	0.0	-0.5	0.0	0.0	Incremental Change
	-10.7	-15.1	-15.1	-15.1	-15.1	-14.7	-14.7	-15.2	-15.2	-15.2	Cumulative Change
1+60	-9.0	-4.2	-4.2	-4.2	-4.2	-4.2	-4.2	-4.4	-4.5	-4.5	Baseline Offset (In Feet)
	0.0	-4.8	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	Incremental Change
	-12.6	-17.4	-17.4	-17.4	-17.4	-17.4	-17.4	-17.2	-17.2	-17.2	Cumulative Change
1+65	-9.7	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9	-7.0	-7.0	-7.0	Baseline Offset (In Feet)
	-1.7	-2.8	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	Incremental Change
	-16.6	-19.4	-19.3	-19.3	-19.3	-19.3	-19.3	-19.2	-19.3	-19.3	Cumulative Change
1+70	-13.0	-10.8	-10.8	-10.8	-10.8	-10.8	-10.8	-10.0	-10.0	-10.0	Baseline Offset (In Feet)
	-2.7	-2.2	0.0	0.0	0.0	0.0	0.0	-0.8	0.0	0.0	Incremental Change
	-17.1	-19.3	-19.3	-19.3	-19.3	-19.3	-19.3	-20.0	-20.0	-20.0	Cumulative Change
1+75	-14.4	-12.0	-12.0	-12.0	-12.0	-12.0	-12.0	-10.2	-10.2	-10.2	Baseline Offset (In Feet)
	-1.7	-2.5	0.0	0.0	0.0	0.0	0.0	-1.8	0.0	0.0	Incremental Change
	-16.3	-18.7	-18.7	-18.7	-18.7	-18.7	-18.7	-20.5	-20.5	-20.5	Cumulative Change
1+80	-13.9	-12.8	-12.8	-12.8	-12.8	-12.8	-12.8	-10.5	-10.5	-10.5	Baseline Offset (In Feet)
	0.0	-1.1	0.0	0.0	0.0	0.0	0.0	-2.3	0.0	0.0	Incremental Change
	-16.4	-17.4	-17.4	-17.4	-17.4	-17.4	-17.4	-19.7	-19.8	-19.8	Cumulative Change
1+85	-12.7	-12.3	-12.3	-12.3	-12.3	-12.3	-12.3	-11.4	-11.4	-11.4	Baseline Offset (In Feet)
	0.0	-0.4	0.0	0.0	0.0	0.0	0.0	-0.9	0.0	0.0	Incremental Change
	-11.8	-12.2	-12.2	-12.2	-12.2	-12.2	-12.2	-13.1	-13.1	-13.1	Cumulative Change

Alpine CP 00
HDD East Site
Streambank Monitor

Baseline	Streambank Monitor - Top of Bank Locations										Description
Station	See Drawing CE-CP00-134 Rev 12 for Survey Baseline Stations										
	6/19/2004	7/10/2005	8/21/2006	8/30/2007	8/6/2008	8/3/2009	7/20/2010	8/4/2011	7/14/2012	7/21/2013	Date
1+90	-16.9	-16.9	-16.9	-16.9	-16.9	-16.9	-16.6	-16.7	-16.8	-16.8	Baseline Offset (In Feet)
	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	0.1	0.1	0.0	Incremental Change
	4.1	4.1	4.1	4.1	4.1	4.1	3.8	3.9	4.0	4.0	Cumulative Change
1+95	-27.7	-27.7	-26.3	-26.3	-26.3	-26.3	-18.7	-18.7	-18.7	-18.7	Baseline Offset (In Feet)
	0.0	0.0	-1.4	0.0	0.0	0.0	-7.6	0.0	0.0	0.0	Incremental Change
	0.1	0.1	-1.3	-1.3	-1.3	-1.3	-8.9	-9.0	-9.0	-9.0	Cumulative Change
2+00	-27.8	-27.8	-26.4	-26.4	-26.4	-26.4	-20.4	-20.4	-20.4	-20.4	Baseline Offset (In Feet)
	0.0	0.0	-1.4	0.0	0.0	0.0	-6.0	0.0	0.0	0.0	Incremental Change
	-5.9	-5.9	-7.3	-7.3	-7.3	-7.3	-13.3	-13.3	-13.3	-13.3	Cumulative Change
2+05	-27.3	-27.3	-26.8	-26.8	-26.8	-26.8	-23.1	-22.5	-22.4	-22.4	Baseline Offset (In Feet)
	0.0	0.0	-0.5	0.0	0.0	0.0	-3.7	-0.6	0.0	0.0	Incremental Change
	-5.6	-5.6	-6.1	-6.1	-6.1	-6.1	-9.8	-10.5	-10.5	-10.5	Cumulative Change
2+10	-26.0	-26.0	-26.0	-26.0	-26.0	-26.5	-26.0	-24.6	-24.6	-24.6	Baseline Offset (In Feet)
	0.0	0.0	0.0	0.0	0.0	0.5	-0.5	-1.4	0.0	0.0	Incremental Change
	-7.7	-7.7	-7.7	-7.7	-7.7	-7.2	-7.7	-9.2	-9.2	-9.2	Cumulative Change
2+15	-23.2	-23.2	-23.2	-23.2	-23.7	-23.7	-23.7	-23.8	-23.8	-23.8	Baseline Offset (In Feet)
	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.1	0.0	0.0	Incremental Change
	-11.7	-11.7	-11.7	-11.7	-11.2	-11.2	-11.2	-11.1	-11.1	-11.1	Cumulative Change
2+20	-20.4	-17.4	-17.3	-17.3	-17.3	-18.2	-18.2	-17.5	-17.4	-17.4	Baseline Offset (In Feet)
	-0.6	-3.0	0.0	0.0	0.0	0.9	0.0	-0.7	0.0	0.0	Incremental Change
	-14.0	-17.0	-17.1	-17.1	-17.1	-16.2	-16.2	-16.9	-17.0	-17.0	Cumulative Change

Alpine CP 00
HDD East Site
Streambank Monitor

Baseline	Streambank Monitor - Top of Bank Locations										Description
Station	See Drawing CE-CP00-134 Rev 12 for Survey Baseline Stations										
	6/19/2004	7/10/2005	8/21/2006	8/30/2007	8/6/2008	8/3/2009	7/20/2010	8/4/2011	7/14/2012	7/21/2013	Date
2+25	-5.2	-5.2	-5.2	-1.0	-1.0	-1.0	-1.0	-1.1	-1.1	-1.1	Baseline Offset (In Feet)
	-2.9	0.0	0.0	-4.2	0.0	0.0	0.0	0.1	0.0	0.0	Incremental Change
	-26.8	-26.8	-26.8	-31.0	-31.0	-31.0	-31.0	-31.0	-30.9	-30.9	Cumulative Change
2+30	-2.4	-2.4	-2.4	-2.4	-2.4	-2.8	-2.8	-3.0	-3.0	-2.6	Baseline Offset (In Feet)
	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.2	0.0	-0.4	Incremental Change
	-21.0	-21.0	-21.0	-21.0	-21.0	-20.6	-20.6	-20.5	-20.4	-20.8	Cumulative Change
2+35	-7.1	-7.1	-7.1	-7.1	-7.1	-7.9	-7.9	-8.1	-8.1	-4.0	Baseline Offset (In Feet)
	0.1	0.0	0.0	0.0	0.0	0.8	0.0	0.2	0.0	-4.2	Incremental Change
	-13.5	-13.5	-13.5	-13.5	-13.5	-12.7	-12.7	-12.5	-12.5	-16.7	Cumulative Change
2+40	-8.3	-8.3	-8.3	-8.3	-8.2	-8.2	-8.2	-8.5	-8.5	-5.3	Baseline Offset (In Feet)
	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.3	0.0	-3.3	Incremental Change
	-10.8	-10.8	-10.9	-10.9	-11.0	-11.0	-11.0	-10.6	-10.6	-13.9	Cumulative Change
2+50	-14.6	-14.6	-13.6	-13.3	-13.3	-13.3	-13.3	-10.6	-10.6	-9.0	Baseline Offset (In Feet)
	0.0	0.0	-1.0	-0.3	0.0	0.0	0.0	-2.7	0.0	-1.6	Incremental Change
	-7.2	-7.2	-8.2	-8.5	-8.5	-8.5	-8.5	-11.2	-11.2	-12.8	Cumulative Change
2+60	-20.5	-19.8	-17.7	-17.7	-17.7	-17.4	-16.3	-14.2	-14.2	-14.2	Baseline Offset (In Feet)
	-0.1	-0.7	-2.1	0.0	0.0	-0.3	-1.1	-2.1	0.0	0.0	Incremental Change
	-6.0	-6.7	-8.8	-8.8	-8.8	-9.1	-10.2	-12.3	-12.3	-12.3	Cumulative Change
2+70	-20.8	-20.8	-20.6	-20.0	-20.0	-20.0	-17.4	-17.7	-17.6	-17.6	Baseline Offset (In Feet)
	0.0	0.0	-0.2	-0.6	0.0	0.0	-2.6	0.3	0.0	0.0	Incremental Change
	-9.6	-9.6	-9.8	-10.4	-10.4	-10.4	-13.0	-12.8	-12.8	-12.8	Cumulative Change

Alpine CP 00
HDD East Site
Streambank Monitor

Baseline	Streambank Monitor - Top of Bank Locations										Description
Station	See Drawing CE-CP00-134 Rev 12 for Survey Baseline Stations										
	6/19/2004	7/10/2005	8/21/2006	8/30/2007	8/6/2008	8/3/2009	7/20/2010	8/4/2011	7/14/2012	7/21/2013	Date
2+75	-20.9	-20.8	-19.7	-19.7	-19.7	-19.4	-17.6	-17.5	-17.5	-17.5	Baseline Offset (In Feet)
	0.0	-0.1	-1.1	0.0	0.0	-0.3	-1.8	-0.1	0.0	0.0	Incremental Change
	-10.5	-10.6	-11.7	-11.7	-11.7	-12.0	-13.8	-13.9	-13.9	-13.9	Cumulative Change
2+85	-22.8	-20.4	-17.9	-17.9	-17.9	-17.9	-17.9	-17.2	-17.2	-17.2	Baseline Offset (In Feet)
	0.0	-2.4	-2.5	0.0	0.0	0.0	0.0	-0.7	0.0	0.0	Incremental Change
	-4.1	-6.5	-9.1	-9.0	-9.0	-9.0	-9.0	-9.7	-9.7	-9.7	Cumulative Change
2+90	-21.3	-21.3	-17.3	-16.5	-15.1	-15.1	-12.0	-8.7	-8.8	-0.6	Baseline Offset (In Feet)
	-0.1	0.0	-4.1	-0.8	-1.4	0.0	-3.1	-3.3	0.0	-8.2	Incremental Change
	-3.2	-3.2	-7.2	-8.0	-9.4	-9.4	-12.5	-15.8	-15.7	-23.9	Cumulative Change
3+00	-6.0	0.3	0.3	0.3	0.3	0.3	0.3	0.1	0.1	2.1	Baseline Offset (In Feet)
	0.0	-6.3	0.0	0.0	0.0	0.0	0.0	0.2	0.0	-2.0	Incremental Change
	-3.1	-9.4	-9.4	-9.4	-9.4	-9.4	-9.4	-9.2	-9.2	-11.2	Cumulative Change
3+10	-11.4	-6.9	-5.2	-5.2	-5.2	-5.0	-5.0	-5.3	-5.2	-3.2	Baseline Offset (In Feet)
	0.0	-4.4	-1.7	0.0	0.0	-0.2	0.0	0.3	-0.1	-2.0	Incremental Change
	-0.1	-4.5	-6.2	-6.2	-6.2	-6.4	-6.4	-6.2	-6.2	-8.3	Cumulative Change
3+15	-15.9	-10.5	-9.6	-9.6	-9.6	-9.6	-9.6	-9.5	-9.6	-4.2	Baseline Offset (In Feet)
	0.0	-5.4	-0.9	0.0	0.0	0.0	0.0	-0.1	0.0	-5.3	Incremental Change
	-0.3	-5.7	-6.6	-6.6	-6.6	-6.6	-6.6	-6.7	-6.6	-11.9	Cumulative Change
3+20	-11.8	-11.8	-8.9	-8.9	-8.9	-8.9	-8.9	-8.9	-8.9	-4.0	Baseline Offset (In Feet)
	0.0	0.0	-2.9	0.0	0.0	0.0	0.0	0.0	0.0	-4.9	Incremental Change
	-4.1	-4.1	-7.0	-7.0	-7.0	-7.0	-7.0	-7.1	-7.1	-12.0	Cumulative Change

Alpine CP 00
HDD East Site
Streambank Monitor

Baseline	Streambank Monitor - Top of Bank Locations										Description
Station	See Drawing CE-CP00-134 Rev 12 for Survey Baseline Stations										
	6/19/2004	7/10/2005	8/21/2006	8/30/2007	8/6/2008	8/3/2009	7/20/2010	8/4/2011	7/14/2012	7/21/2013	Date
3+25	-11.1	-10.3	-9.5	-9.5	-9.5	-9.5	-9.5	-9.6	-9.6	-4.0	Baseline Offset (In Feet)
	0.0	-0.8	-0.8	0.0	0.0	0.0	0.0	0.1	0.0	-5.6	Incremental Change
	-6.0	-6.8	-7.6	-7.6	-7.6	-7.6	-7.6	-7.5	-7.5	-13.2	Cumulative Change
3+30	-11.5	-11.2	-11.2	-11.2	-11.2	-11.2	-11.0	-11.0	-11.0	-5.9	Baseline Offset (In Feet)
	0.0	-0.3	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	-5.1	Incremental Change
	-23.9	-24.2	-24.2	-24.2	-24.2	-24.2	-24.4	-24.4	-24.4	-29.5	Cumulative Change
3+35	-23.5	-23.5	-23.5	-23.5	-23.5	-24.6	-24.6	-12.7	-12.7	-12.7	Baseline Offset (In Feet)
	0.0	0.0	0.0	0.0	0.0	1.1	0.0	-11.9	0.0	0.0	Incremental Change
	-12.2	-12.2	-12.2	-12.2	-12.2	-11.1	-11.1	-23.0	-23.0	-23.0	Cumulative Change
3+40	-25.4	-25.4	-25.4	-25.4	-25.4	-25.4	-25.4	-18.9	-18.9	-18.9	Baseline Offset (In Feet)
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-6.5	0.0	0.0	Incremental Change
	-8.8	-8.8	-8.8	-8.8	-8.8	-8.8	-8.8	-15.3	-15.3	-15.3	Cumulative Change
3+45	-26.4	-24.1	-24.1	-24.1	-24.1	-24.6	-24.6	-17.0	-17.0	-17.0	Baseline Offset (In Feet)
	-1.0	-2.3	0.0	0.0	0.0	0.5	0.0	-7.6	0.0	0.0	Incremental Change
	-6.0	-8.3	-8.3	-8.3	-8.3	-7.8	-7.8	-15.4	-15.4	-15.4	Cumulative Change
3+52	-8.4	-8.4	2.4	2.4	2.4	3.1	3.1	3.1	3.1	3.1	Baseline Offset (In Feet)
	0.0	0.0	-10.8	0.0	0.0	-0.7	0.0	0.0	0.0	0.0	Incremental Change
	-1.7	-1.7	-12.5	-12.5	-12.5	-13.2	-13.2	-13.2	-13.2	-13.2	Cumulative Change
3+60	-10.8	-10.8	3.0	3.0	3.0	3.0	3.0	3.1	3.1	3.1	Baseline Offset (In Feet)
	-0.4	0.0	-13.8	0.0	0.0	0.0	0.0	0.1	0.0	0.0	Incremental Change
	-1.1	-1.1	-14.9	-14.9	-14.9	-14.9	-14.9	-15.0	-15.0	-15.0	Cumulative Change

Alpine CP 00
HDD East Site
Streambank Monitor

Baseline	Streambank Monitor - Top of Bank Locations										Description
Station	See Drawing CE-CP00-134 Rev 12 for Survey Baseline Stations										
	6/19/2004	7/10/2005	8/21/2006	8/30/2007	8/6/2008	8/3/2009	7/20/2010	8/4/2011	7/14/2012	7/21/2013	Date
3+65	-18.4	-18.4	-3.3	-13.8	-13.8	-13.8	-13.8	-13.9	-13.9	-13.9	Baseline Offset (In Feet)
	-0.3	0.0	-15.1	10.5	0.0	0.0	0.0	0.0	0.0	0.0	Incremental Change
	-0.4	-0.4	-15.5	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0	-5.0	Cumulative Change
3+70	-24.1	-21.2	-9.6	-11.9	-11.9	-11.9	-11.9	-12.0	-12.0	-12.0	Baseline Offset (In Feet)
	0.1	-2.9	-11.6	2.3	0.0	0.0	0.0	0.1	0.0	0.0	Incremental Change
	0.2	-2.8	-14.3	-12.0	-12.0	-12.0	-12.0	-12.0	-12.0	-12.0	Cumulative Change
3+75	-20.2	-19.3	-11.3	-10.1	-10.1	-10.1	-10.1	-10.1	-10.1	-10.1	Baseline Offset (In Feet)
	0.0	-0.9	-8.0	-1.2	0.0	0.0	0.0	0.0	0.0	0.0	Incremental Change
	-3.0	-3.9	-11.9	-13.1	-13.1	-13.1	-13.1	-13.1	-13.1	-13.1	Cumulative Change
3+80	-11.6	-11.6	-9.0	-9.0	-9.0	-9.0	-9.0	-8.9	-8.9	-8.9	Baseline Offset (In Feet)
	-1.3	0.0	-2.6	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	Incremental Change
	-8.0	-8.0	-10.6	-10.6	-10.6	-10.6	-10.6	-10.7	-10.7	-10.7	Cumulative Change
3+85	-12.0	-12.0	-11.1	-11.1	-11.1	-11.1	-11.1	-10.6	-10.6	-10.6	Baseline Offset (In Feet)
	-0.3	0.0	-0.9	0.0	0.0	0.0	0.0	-0.5	0.0	0.0	Incremental Change
	-7.9	-7.9	-8.9	-8.8	-8.8	-8.8	-8.8	-9.4	-9.3	-9.3	Cumulative Change
3+95	-21.9	-21.9	-16.1	-16.1	-16.1	-16.1	-16.1	-14.1	-14.1	-14.1	Baseline Offset (In Feet)
	-0.5	0.0	-5.8	0.0	0.0	0.0	0.0	-2.0	0.0	0.0	Incremental Change
	-4.2	-4.2	-10.1	-10.0	-10.0	-10.0	-10.0	-12.0	-12.0	-12.0	Cumulative Change
4+00	-21.9	-21.9	-18.6	-18.6	-18.6	-18.6	-18.6	-15.9	-15.9	-15.9	Baseline Offset (In Feet)
	0.7	0.0	-3.3	0.0	0.0	0.0	0.0	-2.7	0.0	0.0	Incremental Change
	-8.0	-8.0	-11.3	-11.3	-11.3	-11.3	-11.3	-14.0	-14.0	-14.0	Cumulative Change

Alpine CP 00
HDD East Site
Streambank Monitor

Baseline	**Streambank Monitor - Top of Bank Locations**										**Description**
Station	See Drawing CE-CP00-134 Rev 12 for Survey Baseline Stations										
	6/19/2004	**7/10/2005**	**8/21/2006**	**8/30/2007**	**8/6/2008**	**8/3/2009**	**7/20/2010**	**8/4/2011**	**7/14/2012**	**7/21/2013**	**Date**
4+05	-19.5	-19.5	-21.7	-21.7	-21.7	-21.3	-21.3	-20.4	-20.5	-20.5	Baseline Offset (In Feet)
	0.0	0.0	2.2	0.0	0.0	-0.4	0.0	-0.9	0.0	0.0	Incremental Change
	-10.3	-10.3	-8.1	-8.1	-8.1	-8.5	-8.5	-9.4	-9.4	-9.4	Cumulative Change
4+15	2.6	2.6	2.7	2.7	2.5	2.5	2.5	2.5	2.5	2.5	Baseline Offset (In Feet)
	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	Incremental Change
	-33.3	-33.3	-33.4	-33.4	-33.2	-33.2	-33.2	-33.2	-33.2	-33.2	Cumulative Change
4+25	5.1	5.1	5.1	5.1	5.1	4.7	4.7	4.7	4.6	4.6	Baseline Offset (In Feet)
	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	Incremental Change
	-13.7	-13.7	-13.7	-13.7	-13.7	-13.3	-13.3	-13.3	-13.2	-13.2	Cumulative Change
4+35	4.5	4.5	4.5	4.5	4.5	4.9	4.9	5.0	4.9	4.9	Baseline Offset (In Feet)
	0.0	0.0	0.0	0.0	0.0	-0.4	0.0	0.1	0.0	0.0	Incremental Change
	-10.0	-10.0	-10.1	-10.1	-10.1	-10.5	-10.5	-10.5	-10.5	-10.5	Cumulative Change
4+45	1.9	1.9	1.9	1.9	1.9	1.6	1.6	1.6	1.6	1.6	Baseline Offset (In Feet)
	-0.7	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	Incremental Change
	-7.0	-7.0	-7.0	-7.0	-7.0	-6.7	-6.7	-6.7	-6.7	-6.7	Cumulative Change
4+50	4.1	4.1	4.1	4.1	4.1	4.1	4.1	5.0	5.0	5.0	Baseline Offset (In Feet)
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.1	0.0	Incremental Change
	-10.4	-10.4	-10.4	-10.4	-10.4	-10.4	-10.4	-11.3	-11.3	-11.3	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	Streambank Monitor - Top of Bank Locations										Description
Station	See Drawing CE-CP00-134 Rev 14 for Survey Baseline Stations										
	7/21/2013	8/12/2014	8/23/2015	Future	Future	Future	Future	Future	Future	Future	Date
0+10	-24.0	-24.0	-24.0								Baseline Offset (In Feet)
	0.0	0.0	0.0								Incremental Change
	-1.4	-1.3	-1.3								Cumulative Change
0+20	-29.2	-29.2	-28.7								Baseline Offset (In Feet)
	0.0	0.0	-0.5								Incremental Change
	-2.9	-2.9	-3.4								Cumulative Change
0+25	-29.2	-29.2	-29.2								Baseline Offset (In Feet)
	0.0	0.0	0.0								Incremental Change
	-9.1	-9.1	-9.1								Cumulative Change
0+30	-29.3	-29.3	-29.3								Baseline Offset (In Feet)
	0.0	0.0	0.0								Incremental Change
	-11.8	-11.8	-11.8								Cumulative Change
0+40	-29.4	-29.4	-29.4								Baseline Offset (In Feet)
	0.0	0.0	0.0								Incremental Change
	-8.2	-8.3	-8.3								Cumulative Change
0+50	-30.1	-30.1	-30.1								Baseline Offset (In Feet)
	0.0	0.0	0.0								Incremental Change
	-0.2	-0.2	-0.2								Cumulative Change
0+60	-25.4	-25.4	-25.4								Baseline Offset (In Feet)
	0.0	0.0	0.0								Incremental Change
	-2.6	-2.6	-2.6								Cumulative Change

Alpine CP 00
HDD East Site
Streambank Monitor

Baseline	Streambank Monitor - Top of Bank Locations										Description
Station	See Drawing CE-CP00-134 Rev 14 for Survey Baseline Stations										
	7/21/2013	8/12/2014	8/23/2015	Future	Future	Future	Future	Future	Future	Future	Date
0+65	-19.9	-19.9	-19.9								Baseline Offset (In Feet)
	0.0	0.0	0.0								Incremental Change
	-19.9	-19.9	-19.9								Cumulative Change
0+70	-16.2	-16.2	-16.2								Baseline Offset (In Feet)
	0.0	0.0	0.0								Incremental Change
	-16.2	-16.2	-16.2								Cumulative Change
0+75	-17.8	-17.8	-17.8								Baseline Offset (In Feet)
	0.0	0.0	0.0								Incremental Change
	-9.3	-9.3	-9.3								Cumulative Change
0+80	-21.6	-21.6	-20.6								Baseline Offset (In Feet)
	0.0	0.0	-1.0								Incremental Change
	-4.8	-4.8	-5.8								Cumulative Change
0+90	-23.1	-23.1	-22.3								Baseline Offset (In Feet)
	0.0	0.0	-0.8								Incremental Change
	-6.1	-6.1	-6.9								Cumulative Change
1+00	-20.0	-20.0	-20.0								Baseline Offset (In Feet)
	0.0	0.0	0.0								Incremental Change
	-6.7	-6.7	-6.7								Cumulative Change
1+10	-23.0	-23.0	-23.0								Baseline Offset (In Feet)
	0.0	0.0	0.0								Incremental Change
	-2.6	-2.6	-2.6								Cumulative Change

Alpine CP 00
HDD East Site
Streambank Monitor

Baseline	Streambank Monitor - Top of Bank Locations										Description
Station	See Drawing CE-CP00-134 Rev 14 for Survey Baseline Stations										
	7/21/2013	8/12/2014	8/23/2015	Future	Future	Future	Future	Future	Future	Future	Date
1+15	-20.3	-20.3	-20.3								Baseline Offset (In Feet)
	0.0	0.0	0.0								Incremental Change
	-7.3	-7.3	-7.3								Cumulative Change
1+20	-18.6	-18.6	-16.1								Baseline Offset (In Feet)
	0.0	0.0	-2.5								Incremental Change
	-16.9	-16.9	-19.4								Cumulative Change
1+25	-16.2	-16.2	-13.8								Baseline Offset (In Feet)
	0.0	0.0	-2.4								Incremental Change
	-22.6	-22.6	-24.9								Cumulative Change
1+30	-16.3	-16.3	-15.3								Baseline Offset (In Feet)
	0.0	0.0	-1.0								Incremental Change
	-21.5	-21.5	-22.5								Cumulative Change
1+40	-15.4	-15.4	-15.4								Baseline Offset (In Feet)
	0.0	0.0	0.0								Incremental Change
	-18.5	-18.5	-18.5								Cumulative Change
1+45	-14.1	-14.1	-14.1								Baseline Offset (In Feet)
	0.0	0.0	0.0								Incremental Change
	-14.1	-14.1	-14.1								Cumulative Change
1+50	-11.7	-11.7	-11.7								Baseline Offset (In Feet)
	0.0	0.0	0.0								Incremental Change
	-12.0	-12.0	-12.0								Cumulative Change

Alpine CP 00
HDD East Site
Streambank Monitor

Baseline	Streambank Monitor - Top of Bank Locations										Description
Station	See Drawing CE-CP00-134 Rev 14 for Survey Baseline Stations										
	7/21/2013	8/12/2014	8/23/2015	Future	Future	Future	Future	Future	Future	Future	Date
1+55	-7.0	-7.0	-7.0								Baseline Offset (In Feet)
	0.0	0.0	0.0								Incremental Change
	-15.2	-15.2	-15.2								Cumulative Change
1+60	-4.5	-4.5	-4.5								Baseline Offset (In Feet)
	0.0	0.0	0.0								Incremental Change
	-17.2	-17.1	-17.1								Cumulative Change
1+65	-7.0	-7.0	-7.0								Baseline Offset (In Feet)
	0.0	0.0	0.0								Incremental Change
	-19.3	-19.3	-19.3								Cumulative Change
1+70	-10.0	-10.0	-10.0								Baseline Offset (In Feet)
	0.0	0.0	0.0								Incremental Change
	-20.0	-20.1	-20.1								Cumulative Change
1+75	-10.2	-10.2	-10.2								Baseline Offset (In Feet)
	0.0	0.0	0.0								Incremental Change
	-20.5	-20.5	-20.5								Cumulative Change
1+80	-10.5	-10.5	-10.5								Baseline Offset (In Feet)
	0.0	0.0	0.0								Incremental Change
	-19.8	-19.8	-19.8								Cumulative Change
1+85	-11.4	-11.4	-11.4								Baseline Offset (In Feet)
	0.0	0.0	0.0								Incremental Change
	-13.1	-13.1	-13.1								Cumulative Change

Alpine CP 00
HDD East Site
Streambank Monitor

Baseline	Streambank Monitor - Top of Bank Locations										Description
Station	See Drawing CE-CP00-134 Rev 14 for Survey Baseline Stations										
	7/21/2013	8/12/2014	8/23/2015	Future	Future	Future	Future	Future	Future	Future	Date
1+90	-16.8	-17.4	-17.4								Baseline Offset (In Feet)
	0.0	0.6	0.0								Incremental Change
	4.0	4.6	4.6								Cumulative Change
1+95	-18.7	-18.7	-18.3								Baseline Offset (In Feet)
	0.0	0.0	-0.4								Incremental Change
	-9.0	-8.9	-9.3								Cumulative Change
2+00	-20.4	-20.4	-18.7								Baseline Offset (In Feet)
	0.0	0.0	-1.7								Incremental Change
	-13.3	-13.3	-15.0								Cumulative Change
2+05	-22.4	-22.6	-18.5								Baseline Offset (In Feet)
	0.0	0.2	-4.1								Incremental Change
	-10.5	-10.3	-14.4								Cumulative Change
2+10	-24.6	-24.8	-18.0								Baseline Offset (In Feet)
	0.0	0.2	-6.8								Incremental Change
	-9.2	-9.0	-15.7								Cumulative Change
2+15	-23.8	-24.2	-24.2								Baseline Offset (In Feet)
	0.0	0.4	0.0								Incremental Change
	-11.1	-10.7	-10.7								Cumulative Change
2+20	-17.4	-16.7	-16.7								Baseline Offset (In Feet)
	0.0	-0.7	0.0								Incremental Change
	-17.0	-17.7	-17.7								Cumulative Change

Alpine CP 00
HDD East Site
Streambank Monitor

Baseline	Streambank Monitor - Top of Bank Locations										Description
Station	See Drawing CE-CP00-134 Rev 14 for Survey Baseline Stations										
	7/21/2013	8/12/2014	8/23/2015	Future	Future	Future	Future	Future	Future	Future	Date
2+25	-1.1	-1.1	-1.1								Baseline Offset (In Feet)
	0.0	0.0	0.0								Incremental Change
	-30.9	-30.9	-30.9								Cumulative Change
2+30	-2.6	-2.6	-2.6								Baseline Offset (In Feet)
	-0.4	0.0	0.0								Incremental Change
	-20.8	-20.8	-20.8								Cumulative Change
2+35	-4.0	-3.9	-3.9								Baseline Offset (In Feet)
	-4.2	0.0	0.0								Incremental Change
	-16.7	-16.7	-16.7								Cumulative Change
2+40	-5.3	-5.3	-5.3								Baseline Offset (In Feet)
	-3.3	0.0	0.0								Incremental Change
	-13.9	-13.9	-13.9								Cumulative Change
2+50	-9.0	-9.0	-9.0								Baseline Offset (In Feet)
	-1.6	0.0	0.0								Incremental Change
	-12.8	-12.8	-12.8								Cumulative Change
2+60	-14.2	-12.6	-11.8								Baseline Offset (In Feet)
	0.0	-1.6	-0.8								Incremental Change
	-12.3	-13.9	-14.7								Cumulative Change
2+70	-17.6	-14.3	-11.7								Baseline Offset (In Feet)
	0.0	-3.3	-2.6								Incremental Change
	-12.8	-16.1	-18.7								Cumulative Change

Alpine CP 00
HDD East Site
Streambank Monitor

Baseline	Streambank Monitor - Top of Bank Locations										Description
Station	See Drawing CE-CP00-134 Rev 14 for Survey Baseline Stations										
	7/21/2013	8/12/2014	8/23/2015	Future	Future	Future	Future	Future	Future	Future	Date
2+75	-17.5	-15.3	-10.4								Baseline Offset (In Feet)
	0.0	-2.2	-4.9								Incremental Change
	-13.9	-16.1	-21.0								Cumulative Change
2+85	-17.2	-16.5	-8.0								Baseline Offset (In Feet)
	0.0	-0.7	-8.5								Incremental Change
	-9.7	-10.4	-18.9								Cumulative Change
2+90	-0.6	14.8	14.8								Baseline Offset (In Feet)
	-8.2	-15.4	0.0								Incremental Change
	-23.9	-39.3	-39.3								Cumulative Change
3+00	2.1	17.4	17.4								Baseline Offset (In Feet)
	-2.0	-15.3	0.0								Incremental Change
	-11.2	-26.5	-26.5								Cumulative Change
3+10	-3.2	3.8	9.9								Baseline Offset (In Feet)
	-2.0	-7.0	-6.1								Incremental Change
	-8.3	-15.2	-21.3								Cumulative Change
3+15	-4.2	-1.8	-1.3								Baseline Offset (In Feet)
	-5.3	-2.4	-0.5								Incremental Change
	-11.9	-14.3	-14.9								Cumulative Change
3+20	-4.0	-3.0	-3.0								Baseline Offset (In Feet)
	-4.9	-1.0	0.0								Incremental Change
	-12.0	-13.0	-13.0								Cumulative Change

Alpine CP 00
HDD East Site
Streambank Monitor

Baseline	Streambank Monitor - Top of Bank Locations										Description
Station	See Drawing CE-CP00-134 Rev 14 for Survey Baseline Stations										
	7/21/2013	8/12/2014	8/23/2015	Future	Future	Future	Future	Future	Future	Future	Date
3+25	-4.0	-4.0	-4.0								Baseline Offset (In Feet)
	-5.6	0.0	0.0								Incremental Change
	-13.2	-13.1	-13.1								Cumulative Change
3+30	-5.9	-5.9	-5.3								Baseline Offset (In Feet)
	-5.1	0.0	-0.6								Incremental Change
	-29.5	-29.5	-30.1								Cumulative Change
3+35	-12.7	-13.3	-6.6								Baseline Offset (In Feet)
	0.0	0.6	-6.7								Incremental Change
	-23.0	-22.4	-29.1								Cumulative Change
3+40	-18.9	-19.4	-4.0								Baseline Offset (In Feet)
	0.0	0.5	-15.4								Incremental Change
	-15.3	-14.9	-30.2								Cumulative Change
3+45	-17.0	-17.7	-0.3								Baseline Offset (In Feet)
	0.0	0.7	-17.4								Incremental Change
	-15.4	-14.7	-32.1								Cumulative Change
3+52	3.1	3.7	4.5								Baseline Offset (In Feet)
	0.0	-0.6	-0.8								Incremental Change
	-13.2	-13.8	-14.6								Cumulative Change
3+60	3.1	3.1	3.1								Baseline Offset (In Feet)
	0.0	0.0	0.0								Incremental Change
	-15.0	-15.0	-15.0								Cumulative Change

Alpine CP 00
HDD East Site
Streambank Monitor

Baseline	Streambank Monitor - Top of Bank Locations										Description
Station	See Drawing CE-CP00-134 Rev 14 for Survey Baseline Stations										
	7/21/2013	8/12/2014	8/23/2015	Future	Future	Future	Future	Future	Future	Future	Date
3+65	-13.9	-13.9	-9.4								Baseline Offset (In Feet)
	0.0	0.0	-4.5								Incremental Change
	-5.0	-5.0	-9.4								Cumulative Change
3+70	-12.0	-12.0	-7.4								Baseline Offset (In Feet)
	0.0	0.0	-4.6								Incremental Change
	-12.0	-11.9	-16.5								Cumulative Change
3+75	-10.1	-10.1	-5.4								Baseline Offset (In Feet)
	0.0	0.0	-4.7								Incremental Change
	-13.1	-13.1	-17.8								Cumulative Change
3+80	-8.9	-8.9	-6.6								Baseline Offset (In Feet)
	0.0	0.0	-2.3								Incremental Change
	-10.7	-10.7	-13.0								Cumulative Change
3+85	-10.6	-10.6	-8.8								Baseline Offset (In Feet)
	0.0	0.0	-1.8								Incremental Change
	-9.3	-9.3	-11.1								Cumulative Change
3+95	-14.1	-14.1	-13.5								Baseline Offset (In Feet)
	0.0	0.0	-0.6								Incremental Change
	-12.0	-12.0	-12.6								Cumulative Change
4+00	-15.9	-15.9	-15.9								Baseline Offset (In Feet)
	0.0	0.0	0.0								Incremental Change
	-14.0	-14.0	-14.0								Cumulative Change

Alpine CP 00
HDD East Site
Streambank Monitor

Baseline	Streambank Monitor - Top of Bank Locations										Description
Station	See Drawing CE-CP00-134 Rev 14 for Survey Baseline Stations										
	7/21/2013	8/12/2014	8/23/2015	Future	Future	Future	Future	Future	Future	Future	Date
4+05	-20.5	-20.5	-15.7								Baseline Offset (In Feet)
	0.0	0.0	-4.8								Incremental Change
	-9.4	-9.4	-14.1								Cumulative Change
4+15	2.5	2.4	3.7								Baseline Offset (In Feet)
	0.0	0.0	-1.3								Incremental Change
	-33.2	-33.1	-34.4								Cumulative Change
4+25	4.6	5.4	5.4								Baseline Offset (In Feet)
	0.0	-0.7	0.0								Incremental Change
	-13.2	-14.0	-14.0								Cumulative Change
4+35	4.9	4.9	4.9								Baseline Offset (In Feet)
	0.0	0.0	0.0								Incremental Change
	-10.5	-10.5	-10.5								Cumulative Change
4+45	1.6	1.6	7.8								Baseline Offset (In Feet)
	0.0	0.0	-6.2								Incremental Change
	-6.7	-6.7	-12.9								Cumulative Change
4+50	5.0	5.0	8.4								Baseline Offset (In Feet)
	0.0	0.0	-3.4								Incremental Change
	-11.3	-11.3	-14.7								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	Point	Subsidence Monitor - Cross-Section A								Description
Station	Description	See Drawing CE-CP00-134 for Survey Cross-Section Locations								
		7/14/2012	7/20/2013	8/12/2014	8/24/2015	Future	Future	Future	Future	Date
0+00	Tundra	17.0	16.9	17.1	17.1					Elevation (In Feet)
		-0.1	0.0	0.1	0.0					Incremental Change
		-0.9	-1.0	-0.8	-0.8					Cumulative Change
0+09	Tundra	17.1	17.1	17.1	17.2					Elevation (In Feet)
		0.1	0.0	0.0	0.1					Incremental Change
		-0.8	-0.8	-0.8	-0.7					Cumulative Change
0+18	Tundra	16.5	16.3	16.4	16.3					Elevation (In Feet)
		-0.1	-0.1	0.0	-0.1					Incremental Change
		-1.2	-1.3	-1.2	-1.3					Cumulative Change
0+21	Top Bank	15.3	15.0	15.3	15.0					Elevation (In Feet)
		-0.1	-0.3	0.3	-0.3					Incremental Change
		-1.5	-1.8	-1.5	-1.8					Cumulative Change
0+22.5	Gradebreak	13.0	12.5	14.3	13.2					Elevation (In Feet)
		-0.1	-0.5	1.8	-1.1					Incremental Change
		-2.4	-2.9	-1.1	-2.2					Cumulative Change
0+25	Toe Bank	11.5	10.4	11.7	11.3					Elevation (In Feet)
		-0.1	-1.1	1.3	-0.4					Incremental Change
		-2.1	-3.2	-1.9	-2.3					Cumulative Change
0+27	CL Swale	11.1	9.8	10.9	10.4					Elevation (In Feet)
		-0.1	-1.4	1.2	-0.5					Incremental Change
		-2.2	-3.5	-2.4	-2.9					Cumulative Change
0+29	Toe Bank	13.1	12.1	11.9	12.0					Elevation (In Feet)
		0.1	-1.0	-0.3	0.1					Incremental Change
		-0.2	-1.2	-1.4	-1.3					Cumulative Change

Alpine CP 00

HDD East Site

Subsidence Monitor - Seawater Line

Baseline	Point	Subsidence Monitor - Cross-Section A								Description
Station	Description	See Drawing CE-CP00-134 for Survey Cross-Section Locations								
		7/14/2012	7/20/2013	8/12/2014	8/24/2015	Future	Future	Future	Future	Date
0+34	Gradebreak	14.0	12.8	14.4	13.4					Elevation (In Feet)
		-0.2	-1.1	1.6	-1.0					Incremental Change
		-1.6	-2.8	-1.2	-2.2					Cumulative Change
0+35	Top Bank	16.5	16.2	16.2	16.2					Elevation (In Feet)
		0.2	-0.3	0.1	0.0					Incremental Change
		-1.2	-1.4	-1.4	-1.4					Cumulative Change
0+42	Tundra	17.3	17.2	17.3	17.5					Elevation (In Feet)
		0.0	-0.1	0.1	0.2					Incremental Change
		-1.0	-1.1	-1.0	-0.8					Cumulative Change
0+50	Tundra	16.6	16.5	16.5	16.6					Elevation (In Feet)
		-0.1	-0.2	0.1	0.1					Incremental Change
		-1.4	-1.6	-1.5	-1.4					Cumulative Change
***Note: Baseline Stationing Runs from North to South along Cross-Sections.										
***Note: Vertical Datum Adjusted Down Approximately 0.5 feet to reflet Actual Elevation per Differential Levels from CD-1, ran August 2007										

Alpine CP 00
HDD East Site
Subsidence Monitor - Seawater Line

Baseline	Point	Subsidence Monitor - Cross-Section A								Description
Station	Description	See Drawing CE-CP00-134 for Survey Cross-Section Locations								
		7/9/2004	7/28/2005	8/21/2006	8/30/2007	8/7/2008	8/3/2009	7/19/2010	8/4/2011	Date
0+00	Tundra	17.7	17.9	18.0	17.3	17.3	17.2	17.1	17.1	Elevation (In Feet)
		-0.1	0.2	0.1	-0.7	0.0	-0.1	-0.1	0.0	Incremental Change
		-0.2	0.0	0.1	-0.6	-0.6	-0.7	-0.8	-0.8	Cumulative Change
0+09	Tundra	17.7	17.8	17.9	17.2	17.3	17.2	17.0	17.0	Elevation (In Feet)
		-0.1	0.1	0.1	-0.7	0.1	-0.1	-0.1	0.0	Incremental Change
		-0.2	-0.1	0.0	-0.7	-0.6	-0.8	-0.9	-0.9	Cumulative Change
0+18	Tundra	17.2	17.4	17.4	16.7	16.7	16.7	16.4	16.5	Elevation (In Feet)
		-0.2	0.2	0.0	-0.7	0.0	0.0	-0.3	0.1	Incremental Change
		-0.4	-0.2	-0.2	-0.9	-0.9	-0.9	-1.2	-1.1	Cumulative Change
0+21	Top Bank	16.4	16.6	16.6	15.8	15.9	15.8	15.3	15.4	Elevation (In Feet)
		-0.4	0.2	0.0	-0.8	0.1	-0.1	-0.5	0.1	Incremental Change
		-0.4	-0.2	-0.2	-1.0	-0.9	-1.0	-1.5	-1.4	Cumulative Change
0+22.5	Gradebreak	14.8	14.6	14.4	13.5	13.6	13.7	13.4	13.1	Elevation (In Feet)
		0.0	-0.2	-0.2	-0.9	0.1	0.2	-0.3	-0.3	Incremental Change
		-0.6	-0.8	-1.0	-1.9	-1.9	-1.7	-2.0	-2.3	Cumulative Change
0+25	Toe Bank	13.0	13.3	13.0	12.3	12.3	12.3	12.0	11.6	Elevation (In Feet)
		-0.7	0.3	-0.3	-0.7	0.0	0.0	-0.3	-0.4	Incremental Change
		-0.6	-0.3	-0.6	-1.3	-1.3	-1.3	-1.6	-2.1	Cumulative Change
0+27	CL Swale	11.7	12.2	12.8	12.3	12.0	12.1	11.9	11.3	Elevation (In Feet)
		-1.4	0.5	0.6	-0.5	-0.3	0.1	-0.2	-0.6	Incremental Change
		-1.6	-1.1	-0.5	-1.0	-1.3	-1.2	-1.4	-2.0	Cumulative Change
0+29	Toe Bank	13.9	14.1	14.0	13.4	13.5	13.3	13.3	13.1	Elevation (In Feet)
		-0.6	0.2	-0.1	-0.6	0.1	-0.2	0.0	-0.2	Incremental Change
		0.6	0.8	0.7	0.1	0.2	0.0	0.0	-0.2	Cumulative Change

Alpine CP 00
HDD East Site
Subsidence Monitor - Seawater Line

Baseline	Point	Subsidence Monitor - Cross-Section A								Description
Station	Description	See Drawing CE-CP00-134 for Survey Cross-Section Locations								
		7/9/2004	7/28/2005	8/21/2006	8/30/2007	8/7/2008	8/3/2009	7/19/2010	8/4/2011	Date
0+34	Gradebreak	14.8	15.3	15.3	14.6	14.6	14.4	14.3	14.1	Elevation (In Feet)
		-0.7	0.5	0.0	-0.7	0.0	-0.2	-0.1	-0.2	Incremental Change
		-0.8	-0.3	-0.3	-1.0	-1.0	-1.2	-1.3	-1.5	Cumulative Change
0+35	Top Bank	17.6	17.2	17.2	16.5	16.5	16.3	16.3	16.3	Elevation (In Feet)
		0.2	-0.4	0.0	-0.7	0.0	-0.2	0.0	0.0	Incremental Change
		0.0	-0.4	-0.4	-1.1	-1.1	-1.3	-1.3	-1.3	Cumulative Change
0+42	Tundra	18.0	18.1	18.1	17.5	17.5	17.4	17.3	17.4	Elevation (In Feet)
		-0.1	0.1	0.0	-0.6	0.0	-0.1	-0.1	0.1	Incremental Change
		-0.3	-0.2	-0.2	-0.8	-0.8	-0.9	-1.0	-0.9	Cumulative Change
0+50	Tundra	17.7	17.8	17.8	17.1	17.1	16.9	16.6	16.7	Elevation (In Feet)
		-0.1	0.1	0.0	-0.7	-0.1	-0.2	-0.3	0.1	Incremental Change
		-0.3	-0.2	-0.2	-0.9	-0.9	-1.1	-1.4	-1.3	Cumulative Change
***Note: Baseline Stationing Runs from North to South along Cross-Sections.										
***Note: Vertical Datum Adjusted Down Approximately 0.5 feet to reflet Actual Elevation per Differential Levels from CD-1, ran August 2007										

Alpine CP 00

HDD East Site

Subsidence Monitor - Seawater Line

Baseline	Point	Subsidence Monitor - Cross-Section A								Description
Station	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	Point	Subsidence Monitor - Cross-Section A								Description
Station	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	Point	Subsidence Monitor - Cross-Section B								Description
Station	Description	See Drawing CE-CP00-134 for Survey Cross-Section Locations								
		7/14/2012	7/20/2013	8/12/2014	8/24/2015	Future	Future	Future	Future	Date
0+00	Tundra	16.7	16.6	16.8	17.0					Elevation (In Feet)
		-0.1	-0.1	0.1	0.2					Incremental Change
		-0.8	-0.9	-0.7	-0.5					Cumulative Change
0+10	Tundra	17.0	16.8	17.0	17.2					Elevation (In Feet)
		0.0	-0.2	0.2	0.2					Incremental Change
		-0.9	-1.1	-0.9	-0.7					Cumulative Change
0+23	Tundra	16.7	16.6	16.8	17.0					Elevation (In Feet)
		0.1	-0.2	0.2	0.2					Incremental Change
		-0.8	-0.9	-0.7	-0.5					Cumulative Change
0+25	Top of Bank	15.1	15.0	16.0	16.2					Elevation (In Feet)
		0.0	-0.1	1.0	0.2					Incremental Change
		-2.1	-2.2	-1.2	-1.0					Cumulative Change
0+27	Gradebreak	14.5	14.5	14.7	14.7					Elevation (In Feet)
		-0.3	0.1	0.2	0.0					Incremental Change
		-2.2	-2.2	-2.0	-2.0					Cumulative Change
0+32	Toe Bank	12.2	12.5	11.5	10.6					Elevation (In Feet)
		-0.6	0.3	-1.0	-0.9					Incremental Change
		-2.0	-1.7	-2.7	-3.6					Cumulative Change
0+35	CL Swale	12.6	12.3	10.8	10.7					Elevation (In Feet)
		-1.2	-0.3	-1.5	-0.1					Incremental Change
		-1.8	-2.1	-3.6	-3.7					Cumulative Change
0+37	Toe Bank	N/A	13.5	11.8	11.7					Elevation (In Feet)
		N/A	N/A	-1.7	-0.1					Incremental Change
		N/A	-0.4	-2.2	-2.2					Cumulative Change

Alpine CP 00

HDD East Site

Subsidence Monitor - Seawater Line

Baseline	Point	Subsidence Monitor - Cross-Section B								Description
Station	Description	See Drawing CE-CP00-134 for Survey Cross-Section Locations								
		7/14/2012	7/20/2013	8/12/2014	8/24/2015	Future	Future	Future	Future	Date
0+38	Gradebreak	13.9	13.5	12.2	12.2					Elevation (In Feet)
		-0.3	-0.3	-1.3	0.0					Incremental Change
		-1.3	-1.7	-3.0	-3.0					Cumulative Change
0+40	Gradebreak	13.4	13.4	13.1	13.2					Elevation (In Feet)
		-0.3	0.0	-0.3	0.1					Incremental Change
		-1.1	-1.1	-1.4	-1.3					Cumulative Change
0+42	Gradebreak	14.6	14.4	14.3	14.6					Elevation (In Feet)
		0.0	-0.2	-0.1	0.3					Incremental Change
		-1.3	-1.4	-1.5	-1.2					Cumulative Change
0+49	Gradebreak	15.7	15.5	15.9	16.5					Elevation (In Feet)
		0.2	-0.2	0.4	0.6					Incremental Change
		-0.5	-0.7	-0.3	0.3					Cumulative Change
0+52	Top Bank	17.0	16.9	17.1	17.2					Elevation (In Feet)
		0.1	-0.1	0.2	0.1					Incremental Change
		-0.3	-0.4	-0.2	-0.1					Cumulative Change
0+60	Tundra	17.2	17.2	17.3	17.5					Elevation (In Feet)
		0.1	0.0	0.1	0.2					Incremental Change
		-0.6	-0.6	-0.5	-0.3					Cumulative Change
***Note: Baseline Stationing Runs from North to South along Cross-Sections.										
***Note: Vertical Datum Adjusted Down Approximately 0.5 feet to reflet Actual Elevation per Differential Levels from CD-1, ran August 2007.										

Alpine CP 00
HDD East Site
Subsidence Monitor - Seawater Line

Baseline	Point	Subsidence Monitor - Cross-Section B								Description
Station	Description	See Drawing CE-CP00-134 for Survey Cross-Section Locations								
		7/9/2004	7/28/2005	8/21/2006	8/30/2007	8/7/2008	8/3/2009	7/19/2010	8/4/2011	Date
0+00	Tundra	17.5	17.4	17.5	16.8	16.9	16.8	16.7	16.8	Elevation (In Feet)
		0.1	-0.1	0.1	-0.7	0.1	-0.1	-0.1	0.1	Incremental Change
		0.0	-0.1	0.0	-0.7	-0.6	-0.7	-0.8	-0.7	Cumulative Change
0+10	Tundra	17.7	17.7	17.8	17.1	17.1	16.9	16.9	17.0	Elevation (In Feet)
		0.0	0.0	0.1	-0.6	0.0	-0.1	0.0	0.1	Incremental Change
		-0.2	-0.2	-0.1	-0.8	-0.8	-1.0	-1.0	-0.9	Cumulative Change
0+23	Tundra	17.3	17.4	17.5	16.8	16.8	16.8	16.6	16.7	Elevation (In Feet)
		-0.1	0.1	0.1	-0.7	0.0	0.0	-0.1	0.1	Incremental Change
		-0.2	-0.1	0.0	-0.7	-0.7	-0.8	-0.9	-0.8	Cumulative Change
0+25	Top of Bank	15.9	16.0	16.1	15.4	15.4	15.3	15.0	15.1	Elevation (In Feet)
		-0.1	0.1	0.1	-0.7	0.0	-0.1	-0.3	0.1	Incremental Change
		-1.3	-1.2	-1.1	-1.8	-1.8	-1.9	-2.2	-2.1	Cumulative Change
0+27	Gradebreak	16.4	16.4	16.5	15.8	15.7	15.6	14.9	14.8	Elevation (In Feet)
		-0.1	0.0	0.1	-0.7	-0.1	-0.2	-0.7	-0.1	Incremental Change
		-0.3	-0.3	-0.2	-0.9	-1.0	-1.2	-1.8	-1.9	Cumulative Change
0+32	Toe Bank	14.5	14.7	14.6	13.9	13.9	13.8	13.6	12.8	Elevation (In Feet)
		0.0	0.2	-0.1	-0.7	0.0	-0.1	-0.2	-0.8	Incremental Change
		0.3	0.5	0.4	-0.3	-0.3	-0.4	-0.6	-1.4	Cumulative Change
0+35	CL Swale	14.2	14.6	14.6	13.9	13.9	13.7	13.4	13.8	Elevation (In Feet)
		0.0	0.4	0.0	-0.7	0.0	-0.2	-0.3	0.4	Incremental Change
		-0.2	0.2	0.2	-0.5	-0.5	-0.7	-1.0	-0.6	Cumulative Change
0+37	Toe Bank	13.7	14.4	14.5	13.5	13.8	13.4	13.3	13.1	Elevation (In Feet)
		-0.7	0.7	0.0	-0.9	0.3	-0.4	-0.1	-0.2	Incremental Change
		-0.2	0.5	0.5	-0.4	-0.1	-0.5	-0.6	-0.8	Cumulative Change

Alpine CP 00

HDD East Site

Subsidence Monitor - Seawater Line

Baseline	Point	Subsidence Monitor - Cross-Section B								Description
Station	Description	See Drawing CE-CP00-134 for Survey Cross-Section Locations								
		7/9/2004	7/28/2005	8/21/2006	8/30/2007	8/7/2008	8/3/2009	7/19/2010	8/4/2011	Date
0+38	Gradebreak	14.9	15.0	15.1	14.4	14.5	14.4	14.2	14.2	Elevation (In Feet)
		0.0	0.1	0.1	-0.7	0.1	-0.1	-0.2	0.0	Incremental Change
		-0.3	-0.2	-0.1	-0.8	-0.7	-0.8	-1.0	-1.0	Cumulative Change
0+40	Gradebreak	15.4	15.5	15.5	14.9	14.9	13.8	13.6	13.7	Elevation (In Feet)
		0.0	0.1	0.0	-0.6	0.0	-1.0	-0.2	0.1	Incremental Change
		0.9	1.0	1.0	0.4	0.4	-0.7	-0.9	-0.8	Cumulative Change
0+42	Gradebreak	15.8	15.9	15.9	15.3	15.2	15.0	14.7	14.6	Elevation (In Feet)
		0.0	0.1	0.0	-0.6	-0.1	-0.3	-0.3	-0.1	Incremental Change
		0.0	0.1	0.1	-0.5	-0.6	-0.9	-1.1	-1.3	Cumulative Change
0+49	Gradebreak	16.0	16.2	16.2	15.6	15.6	15.6	15.4	15.5	Elevation (In Feet)
		0.0	0.2	0.0	-0.6	0.0	-0.1	-0.2	0.0	Incremental Change
		-0.2	0.0	0.0	-0.6	-0.6	-0.6	-0.8	-0.8	Cumulative Change
0+52	Top Bank	17.6	17.7	17.8	17.2	17.2	17.1	16.9	16.9	Elevation (In Feet)
		-0.1	0.1	0.1	-0.6	0.0	-0.1	-0.2	0.0	Incremental Change
		0.3	0.4	0.5	-0.1	-0.1	-0.2	-0.4	-0.4	Cumulative Change
0+60	Tundra	17.6	17.8	17.9	17.2	16.9	17.2	17.1	17.2	Elevation (In Feet)
		-0.1	0.2	0.1	-0.7	-0.3	0.3	-0.1	0.0	Incremental Change
		-0.2	0.0	0.1	-0.6	-0.9	-0.6	-0.7	-0.7	Cumulative Change
***Note: Baseline Stationing Runs from North to South along Cross-Sections.										
***Note: Vertical Datum Adjusted Down Approximately 0.5 feet to reflet Actual Elevation per Differential Levels from CD-1, ran August 2007.										

Alpine CP 00
HDD East Site
Subsidence Monitor - Seawater Line

Baseline	Point	Subsidence Monitor - Cross-Section B								Description
Station	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	Point	Subsidence Monitor - Cross-Section C								Description
Station	Description	See Drawing CE-CP00-134 for Survey Cross-Section Locations								
		7/14/2012	7/20/2013	8/12/2014	8/24/2015	Future	Future	Future	Future	Date
0+00	Tundra	16.0	15.9	16.1	16.1					Elevation (In Feet)
		0.0	-0.2	0.2	0.0					Incremental Change
		-0.9	-1.1	-0.8	-0.8					Cumulative Change
0+13	Tundra	15.9	15.8	16.0	16.1					Elevation (In Feet)
		-0.1	-0.1	0.2	0.1					Incremental Change
		-0.9	-1.0	-0.8	-0.7					Cumulative Change
0+27	Top Bank	16.1	16.0	15.7	16.2					Elevation (In Feet)
		-0.1	-0.2	-0.3	0.5					Incremental Change
		-0.9	-1.1	-1.3	-0.8					Cumulative Change
0+29	Toe Bank	13.3	13.2	13.2	13.6					Elevation (In Feet)
		0.0	-0.1	0.0	0.4					Incremental Change
		0.5	0.4	0.4	0.8					Cumulative Change
0+31	Toe Bank	13.0	13.0	13.8	13.4					Elevation (In Feet)
		0.3	0.0	0.8	-0.4					Incremental Change
		-0.9	-0.9	-0.1	-0.5					Cumulative Change
0+32	Gradebreak	15.9	15.7	15.5	16.2					Elevation (In Feet)
		0.1	-0.2	-0.2	0.6					Incremental Change
		-0.8	-1.0	-1.2	-0.6					Cumulative Change
0+33	Top Bank	16.6	16.4	16.3	16.7					Elevation (In Feet)
		0.0	-0.2	-0.1	0.4					Incremental Change
		-0.7	-0.9	-1.0	-0.6					Cumulative Change
0+42	Tundra	16.5	16.5	16.6	16.8					Elevation (In Feet)
		0.0	0.0	0.1	0.2					Incremental Change
		-0.5	-0.5	-0.4	-0.2					Cumulative Change

Alpine CP 00

HDD East Site

Subsidence Monitor - Seawater Line

Baseline	Point	Subsidence Monitor - Cross-Section C								Description
Station	Description	See Drawing CE-CP00-134 for Survey Cross-Section Locations								
		7/14/2012	7/20/2013	8/12/2014	8/24/2015	Future	Future	Future	Future	Date
0+50	Tundra	16.8	16.7	16.9	17.0					Elevation (In Feet)
		0.0	0.0	0.1	0.2					Incremental Change
		-0.4	-0.5	-0.3	-0.2					Cumulative Change
***Note: Baseline Stationing Runs from North to South along Cross-Sections.										
***Note: Vertical Datum Adjusted Down Approximately 0.5 feet to reflet Actual Elevation per Differential Levels from CD-1, ran August 2007.										

Alpine CP 00
HDD East Site
Subsidence Monitor - Seawater Line

Baseline	Point	Subsidence Monitor - Cross-Section C								Description
Station	Description	See Drawing CE-CP00-134 for Survey Cross-Section Locations								
		7/9/2004	7/28/2005	8/21/2006	8/30/2007	8/7/2008	8/3/2009	7/19/2010	8/4/2011	Date
0+00	Tundra	16.7	16.7	16.8	16.1	16.1	16.0	15.8	16.1	Elevation (In Feet)
		-0.1	0.0	0.1	-0.7	0.0	-0.1	-0.2	0.3	Incremental Change
		-0.2	-0.2	-0.1	-0.8	-0.8	-0.9	-1.1	-0.8	Cumulative Change
0+13	Tundra	16.6	16.7	16.8	16.1	16.2	16.0	15.9	16.0	Elevation (In Feet)
		-0.1	0.1	0.1	-0.7	0.0	-0.2	-0.1	0.1	Incremental Change
		-0.2	-0.1	0.0	-0.7	-0.7	-0.8	-0.9	-0.8	Cumulative Change
0+27	Top Bank	16.8	16.8	16.9	16.2	16.2	16.2	16.0	16.2	Elevation (In Feet)
		0.0	0.0	0.1	-0.7	0.0	0.0	-0.2	0.2	Incremental Change
		-0.2	-0.2	-0.1	-0.8	-0.8	-0.8	-1.0	-0.8	Cumulative Change
0+29	Toe Bank	13.5	13.7	13.8	13.2	13.5	13.4	13.1	13.3	Elevation (In Feet)
		0.3	0.2	0.1	-0.6	0.3	-0.1	-0.3	0.2	Incremental Change
		0.7	0.9	1.0	0.4	0.7	0.6	0.3	0.5	Cumulative Change
0+31	Toe Bank	13.5	13.6	13.9	13.2	13.3	13.2	13.0	12.8	Elevation (In Feet)
		-0.1	0.1	0.3	-0.7	0.1	-0.1	-0.2	-0.2	Incremental Change
		-0.4	-0.3	0.0	-0.7	-0.6	-0.7	-0.9	-1.1	Cumulative Change
0+32	Gradebreak	16.6	16.7	16.7	16.0	16.0	15.8	15.9	15.9	Elevation (In Feet)
		-0.1	0.1	0.0	-0.7	0.0	-0.2	0.1	-0.1	Incremental Change
		-0.1	0.0	0.0	-0.7	-0.7	-0.9	-0.8	-0.9	Cumulative Change
0+33	Top Bank	17.1	17.1	17.5	16.7	16.7	16.5	16.5	16.5	Elevation (In Feet)
		-0.1	0.0	0.4	-0.8	0.0	-0.1	0.0	0.0	Incremental Change
		-0.2	-0.2	0.2	-0.6	-0.6	-0.8	-0.8	-0.8	Cumulative Change
0+42	Tundra	17.0	17.0	17.1	16.5	16.7	16.5	16.3	16.5	Elevation (In Feet)
		0.1	0.0	0.1	-0.6	0.2	-0.2	-0.1	0.2	Incremental Change
		0.0	0.0	0.1	-0.5	-0.3	-0.6	-0.7	-0.5	Cumulative Change

Alpine CP 00

HDD East Site

Subsidence Monitor - Seawater Line

Baseline	Point	Subsidence Monitor - Cross-Section C								Description
Station	Description	See Drawing CE-CP00-134 for Survey Cross-Section Locations								
		7/9/2004	7/28/2005	8/21/2006	8/30/2007	8/7/2008	8/3/2009	7/19/2010	8/4/2011	Date
0+50	Tundra	17.1	17.2	17.3	16.7	16.8	16.6	16.5	16.7	Elevation (In Feet)
		-0.1	0.1	0.1	-0.6	0.1	-0.1	-0.1	0.2	Incremental Change
		-0.1	0.0	0.1	-0.5	-0.4	-0.6	-0.7	-0.5	Cumulative Change
***Note: Baseline Stationing Runs from North to South along Cross-Sections.										
***Note: Vertical Datum Adjusted Down Approximately 0.5 feet to reflet Actual Elevation per Differential Levels from CD-1, ran August 2007.										

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	Point	Subsidence Monitor - Cross-Section C								Description
Station	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	Point	Subsidence Monitor - Cross-Section D								Description
Station	Description	See Drawing CE-CP00-134 for Survey Cross-Section Locations								
		7/15/2012	7/20/2013	8/12/2014	8/24/2015	Future	Future	Future	Future	Date
0+00	Tundra	16.5	16.4	16.5	16.5					Elevation (In Feet)
		-0.1	-0.1	0.1	0.0					Incremental Change
		-1.1	-1.2	-1.1	-1.1					Cumulative Change
0+10	Tundra	16.7	16.6	16.7	16.7					Elevation (In Feet)
		-0.1	-0.2	0.1	0.0					Incremental Change
		-1.0	-1.1	-1.0	-1.0					Cumulative Change
0+20	Gradebreak	15.8	15.6	15.8	15.8					Elevation (In Feet)
		0.1	-0.2	0.2	0.0					Incremental Change
		-1.6	-1.8	-1.6	-1.6					Cumulative Change
0+22	Top Bank	14.8	14.7	15.1	15.0					Elevation (In Feet)
		0.0	-0.2	0.4	-0.2					Incremental Change
		-2.0	-2.1	-1.7	-1.9					Cumulative Change
0+24	Toe Bank	14.3	14.1	14.2	14.5					Elevation (In Feet)
		0.0	-0.2	0.2	0.2					Incremental Change
		-0.4	-0.6	-0.5	-0.2					Cumulative Change
0+25	CL Swale	13.5	13.6	14.1	13.7					Elevation (In Feet)
		0.1	0.2	0.5	-0.4					Incremental Change
		-0.6	-0.5	0.0	-0.4					Cumulative Change
0+27	Toe Bank	15.4	15.1	14.7	14.9					Elevation (In Feet)
		0.0	-0.3	-0.4	0.2					Incremental Change
		1.0	0.7	0.3	0.5					Cumulative Change
0+29	Top Bank	15.7	15.6	15.6	15.7					Elevation (In Feet)
		-0.1	-0.1	0.1	0.1					Incremental Change
		-1.6	-1.8	-1.7	-1.6					Cumulative Change

Alpine CP 00

HDD East Site

Subsidence Monitor - Seawater Line

Baseline	Point	Subsidence Monitor - Cross-Section D								Description
Station	Description	See Drawing CE-CP00-134 for Survey Cross-Section Locations								
		7/15/2012	7/20/2013	8/12/2014	8/24/2015	Future	Future	Future	Future	Date
0+38	Tundra	14.6	14.7	14.7	14.9					Elevation (In Feet)
		-0.3	0.1	0.1	0.2					Incremental Change
		-3.0	-2.9	-2.9	-2.7					Cumulative Change
0+50	Tundra	15.0	15.3	14.9	15.1					Elevation (In Feet)
		0.3	0.3	-0.4	0.2					Incremental Change
		-2.8	-2.4	-2.8	-2.6					Cumulative Change
***Note: Baseline Stationing Runs from North to South along Cross-Sections.										
***Note: Vertical Datum Adjusted Down Approximately 0.5 feet to reflet Actual Elevation per Differential Levels from CD-1, ran August 2007.										

Alpine CP 00
HDD East Site
Subsidence Monitor - Seawater Line

Baseline	Point	Subsidence Monitor - Cross-Section D								Description
Station	Description	See Drawing CE-CP00-134 for Survey Cross-Section Locations								
		7/9/2004	7/28/2005	8/21/2006	8/30/2007	8/7/2008	8/3/2009	7/19/2010	8/4/2011	Date
0+00	Tundra	17.5	17.4	17.5	16.8	16.9	16.6	16.5	16.6	Elevation (In Feet)
		0.0	-0.1	0.1	-0.7	0.1	-0.4	-0.1	0.1	Incremental Change
		-0.1	-0.2	-0.1	-0.8	-0.4	-0.9	-1.0	-0.9	Cumulative Change
0+10	Tundra	17.6	17.6	17.6	16.9	16.9	16.9	16.7	16.9	Elevation (In Feet)
		0.0	0.0	0.0	-0.7	0.0	0.0	-0.2	0.2	Incremental Change
		-0.1	-0.3	-0.3	-0.7	-0.7	-0.7	-0.9	-0.8	Cumulative Change
0+20	Gradebreak	N/A	17.2	17.2	16.4	16.5	16.0	15.9	15.8	Elevation (In Feet)
		N/A	0.6	-0.1	-0.8	0.1	-0.5	-0.1	-0.1	Incremental Change
		-0.8	-0.2	-0.5	-1.1	-0.9	-1.4	-1.7	-1.7	Cumulative Change
0+22	Top Bank	16.8	16.5	16.5	15.7	15.7	14.9	14.9	14.8	Elevation (In Feet)
		0.0	-0.3	-0.1	-0.8	0.0	-0.8	0.0	-0.1	Incremental Change
		0.0	-0.2	-0.4	-0.9	-1.1	-1.9	-1.9	-2.0	Cumulative Change
0+24	Toe Bank	14.8	13.9	14.9	14.2	14.5	14.2	13.9	14.3	Elevation (In Feet)
		0.0	-0.9	1.0	-0.7	0.3	-0.3	-0.3	0.4	Incremental Change
		0.1	-0.7	0.2	-0.6	0.2	-0.6	-0.9	-0.5	Cumulative Change
0+25	CL Swale	14.1	13.7	14.0	13.4	13.9	13.6	13.9	13.4	Elevation (In Feet)
		0.0	-0.4	0.3	-0.6	0.4	-0.3	0.3	-0.5	Incremental Change
		0.0	-0.5	-0.1	-0.3	-0.3	-0.5	-0.2	-0.7	Cumulative Change
0+27	Toe Bank	14.2	16.2	16.5	15.8	15.8	15.6	15.5	15.3	Elevation (In Feet)
		0.0	2.0	0.3	-0.7	0.0	-0.1	-0.1	-0.2	Incremental Change
		-0.2	1.6	1.9	1.5	1.8	1.4	1.3	1.1	Cumulative Change
0+29	Top Bank	17.0	17.0	17.0	16.4	16.5	15.9	15.8	15.8	Elevation (In Feet)
		-0.1	0.0	0.0	-0.6	0.1	-0.5	-0.1	0.0	Incremental Change
		-0.3	-0.3	-0.4	-0.7	-0.4	-1.2	-1.3	-1.2	Cumulative Change

Alpine CP 00

HDD East Site

Subsidence Monitor - Seawater Line

Baseline	Point	Subsidence Monitor - Cross-Section D								Description
Station	Description	See Drawing CE-CP00-134 for Survey Cross-Section Locations								
		7/9/2004	7/28/2005	8/21/2006	8/30/2007	8/7/2008	8/3/2009	7/19/2010	8/4/2011	Date
0+38	Tundra	17.2	17.2	17.1	16.4	16.4	14.8	14.7	14.8	Elevation (In Feet)
		-0.1	0.0	-0.1	-0.7	0.0	-1.6	-0.1	0.1	Incremental Change
		-0.4	-0.5	-0.4	-0.9	-0.9	-2.5	-2.5	-2.4	Cumulative Change
0+50	Tundra	17.4	17.4	17.4	16.7	16.8	14.9	14.7	14.7	Elevation (In Feet)
		0.6	0.0	0.0	-0.7	0.1	-1.9	-0.2	0.0	Incremental Change
		-0.3	-0.2	-0.2	-0.8	-0.5	-1.9	-2.1	-2.7	Cumulative Change
***Note: Baseline Stationing Runs from North to South along Cross-Sections.										
***Note: Vertical Datum Adjusted Down Approximately 0.5 feet to reflet Actual Elevation per Differential Levels from CD-1, ran August 2007.										

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	Point	Subsidence Monitor - Cross-Section D								Description
Station	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	Point	Subsidence Monitor - Cross-Section E										Description
Station	Description	See Drawing CE-CP00-134 for Survey Cross-Section Locations										
		7/20/2013	8/12/2014	8/24/2015	Future	Future	Future	Future	Future	Future	Future	Date
0+00	Tundra	16.7	16.9	17.1								Elevation (In Feet)
		0.0	0.2	0.2								Incremental Change
		-0.8	-0.6	-0.4								Cumulative Change
0+9	Tundra	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Elevation (In Feet)
												Incremental Change
												Cumulative Change
0+12	Gradebreak	17.2	17.2	17.3								Elevation (In Feet)
		0.0	0.0	0.1								Incremental Change
		-0.6	-0.6	-0.5								Cumulative Change
0+20	Top Bank	15.0	15.2	15.0								Elevation (In Feet)
		-0.1	0.2	-0.3								Incremental Change
		-2.3	-2.1	-2.3								Cumulative Change
0+21	Toe Bank	13.1	14.2	13.2								Elevation (In Feet)
		-0.3	1.1	-1.0								Incremental Change
		-3.4	-2.3	-3.3								Cumulative Change
0+23	CL Swale	13.1	13.2	13.1								Elevation (In Feet)
		0.2	0.1	-0.1								Incremental Change
		-2.9	-2.8	-2.9								Cumulative Change
0+24	Toe Bank	13.2	13.2	13.3								Elevation (In Feet)
		0.2	0.1	0.1								Incremental Change
		-3.0	-3.0	-2.9								Cumulative Change
0+27	Top Bank	14.7	14.8	14.4								Elevation (In Feet)
		0.3	0.1	-0.3								Incremental Change

Alpine CP 00

HDD East Site

Subsidence Monitor - Seawater Line

Baseline	Point	Subsidence Monitor - Cross-Section E										Description
Station	Description	See Drawing CE-CP00-134 for Survey Cross-Section Locations										
		7/20/2013	8/12/2014	8/24/2015	Future	Future	Future	Future	Future	Future	Future	Date
		-2.6	-2.6	-2.9								Cumulative Change

Alpine CP 00

HDD East Site

Subsidence Monitor - Seawater Line

Baseline	Point	Subsidence Monitor - Cross-Section E										Description
Station	Description	See Drawing CE-CP00-134 for Survey Cross-Section Locations										
		7/20/2013	8/12/2014	8/24/2015	Future	Future	Future	Future	Future	Future	Future	Date
0+38	Tundra	16.7	16.8	17.0								Elevation (In Feet)
		-0.1	0.1	0.2								Incremental Change
		-0.7	-0.6	-0.4								Cumulative Change
0+49	Tundra	16.5	16.7	16.8								Elevation (In Feet)
		-0.2	0.2	0.1								Incremental Change
		-0.9	-0.7	-0.6								Cumulative Change

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

*****Note: Vertical Datum Adjusted Down Approximately 0.5 feet to reflet Actual Elevation per Differential Levels from CD-1, ran August 2007.**

Alpine CP 00
HDD East Site
Subsidence Monitor - Seawater Line

Baseline	Point	Subsidence Monitor - Cross-Section E										Description
Station	Description	See Drawing CE-CP00-134 for Survey Cross-Section Locations										
		9/8/2003	7/9/2004	7/28/2005	8/21/2006	8/30/2007	8/7/2008	8/3/2009	7/19/2010	8/4/2011	7/15/2012	Date
0+00	Tundra	17.5	17.5	17.4	17.5	16.8	16.8	16.8	16.6	16.6	16.7	Elevation (In Feet)
			0.0	-0.1	0.1	-0.7	0.0	-0.1	-0.2	0.0	0.1	Incremental Change
			0.0	-0.1	0.0	-0.7	-0.7	-0.7	-0.9	-0.9	-0.8	Cumulative Change
0+9	Tundra	17.3	17.3	17.3	17.8	17.1	N/A	N/A	N/A	N/A	N/A	Elevation (In Feet)
			0.0	0.0	0.5	-0.7						Incremental Change
			0.0	0.0	0.5	-0.2						Cumulative Change
0+12	Gradebreak	17.8	17.8	17.4	17.9	17.2	17.3	17.1	17.1	17.2	17.2	Elevation (In Feet)
			0.0	-0.4	0.5	-0.7	0.1	-0.1	0.0	0.1	-0.1	Incremental Change
			0.0	-0.4	0.1	-0.6	-0.6	-0.7	-0.7	-0.6	-0.6	Cumulative Change
0+20	Top Bank	17.3	17.3	17.3	17.3	16.2	15.8	15.8	15.5	15.2	15.1	Elevation (In Feet)
			0.0	0.0	0.0	-1.1	-0.4	0.0	-0.3	-0.3	-0.1	Incremental Change
			0.0	0.0	0.0	-1.1	-1.5	-1.5	-1.8	-2.1	-2.2	Cumulative Change
0+21	Toe Bank	16.5	16.5	16.5	16.2	14.8	14.3	13.4	15.0	13.1	13.4	Elevation (In Feet)
			0.0	0.0	-0.3	-1.4	-0.5	-0.9	1.6	-1.9	0.2	Incremental Change
			0.0	0.0	-0.3	-1.7	-2.2	-3.1	-1.5	-3.4	-3.1	Cumulative Change
0+23	CL Swale	16.0	16.0	16.0	14.7	13.8	13.2	13.0	12.7	12.8	12.9	Elevation (In Feet)
			0.0	0.0	-1.3	-0.9	-0.6	-0.2	-0.3	0.1	0.2	Incremental Change
			0.0	0.0	-1.3	-2.2	-2.8	-3.0	-3.3	-3.3	-3.1	Cumulative Change
0+24	Toe Bank	16.2	16.4	16.3	14.8	13.1	13.8	13.1	13.1	13.1	13.0	Elevation (In Feet)
			0.2	-0.1	-1.5	-1.7	0.7	-0.7	0.0	0.0	-0.1	Incremental Change
			0.2	0.1	-1.4	-3.1	-2.4	-3.1	-3.1	-3.1	-3.2	Cumulative Change
0+27	Top Bank	17.3	17.4	17.4	16.3	14.5	14.5	14.3	14.2	14.4	14.4	Elevation (In Feet)
			0.1	0.0	-1.2	-1.8	0.0	-0.2	-0.1	0.2	0.0	Incremental Change

Alpine CP 00

HDD East Site

Subsidence Monitor - Seawater Line

Baseline	Point	Subsidence Monitor - Cross-Section E										Description
Station	Description	See Drawing CE-CP00-134 for Survey Cross-Section Locations										
		9/8/2003	7/9/2004	7/28/2005	8/21/2006	8/30/2007	8/7/2008	8/3/2009	7/19/2010	8/4/2011	7/15/2012	Date
			0.1	0.1	-1.1	-2.8	-2.8	-3.0	-3.1	-2.9	-2.9	Cumulative Change

Alpine CP 00

HDD East Site

Subsidence Monitor - Seawater Line

Baseline	Point	Subsidence Monitor - Cross-Section E										Description
Station	Description	See Drawing CE-CP00-134 for Survey Cross-Section Locations										
		9/8/2003	7/9/2004	7/28/2005	8/21/2006	8/30/2007	8/7/2008	8/3/2009	7/19/2010	8/4/2011	7/15/2012	Date
0+38	Tundra	17.4	17.4	17.5	17.5	16.8	16.8	16.7	16.7	16.8	16.8	Elevation (In Feet)
			0.0	0.1	0.0	-0.7	0.0	-0.1	0.0	0.1	-0.1	Incremental Change
			0.0	0.1	0.1	-0.6	-0.6	-0.7	-0.7	-0.6	-0.6	Cumulative Change
0+49	Tundra	17.4	17.4	17.4	17.4	16.7	16.8	16.7	16.6	16.9	16.7	Elevation (In Feet)
			0.0	0.0	0.0	-0.7	0.1	-0.1	0.0	0.3	-0.2	Incremental Change
			0.0	0.0	0.0	-0.7	-0.6	-0.8	-0.8	-0.5	-0.7	Cumulative Change

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

*****Note: Vertical Datum Adjusted Down Approximately 0.5 feet to reflet Actual Elevation per Differential Levels from CD-1, ran August 2007.**

Alpine CP 00

HDD East Site

Subsidence Monitor - Seawater Line

Baseline	Point	Subsidence Monitor - Cross-Section F										Description
Station	Description	See Drawing CE-CP00-134 for Survey Cross-Section Locations										
		9/20/2013	8/12/2014	8/24/2015	Future	Future	Future	Future	Future	Future	Future	Date
0+00	Tundra	17.3	17.5	17.7								Elevation (In Feet)
		0.0	0.2	0.2								Incremental Change
		-0.6	-0.4	-0.2								Cumulative Change
0+10	Tundra	16.6	16.9	17.0								Elevation (In Feet)
		-0.1	0.2	0.1								Incremental Change
		-0.7	-0.4	-0.3								Cumulative Change
0+14	Gradebreak	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Elevation (In Feet)
												Incremental Change
												Cumulative Change
0+20	Top Bank	15.8	16.1	16.3								Elevation (In Feet)
		-0.3	0.3	0.2								Incremental Change
		-1.7	-1.4	-1.2								Cumulative Change
0+21	Toe Bank	13.9	15.5	14.2								Elevation (In Feet)
		-0.3	1.7	-1.3								Incremental Change
		-2.6	-1.0	-2.3								Cumulative Change
0+24	CL Swale	13.6	13.7	13.8								Elevation (In Feet)
		-0.1	0.2	0.1								Incremental Change
		-1.4	-1.3	-1.2								Cumulative Change
0+26	Toe Bank	14.4	14.6	14.7								Elevation (In Feet)
		1.0	0.2	0.1								Incremental Change
		-1.7	-1.5	-1.4								Cumulative Change
0+28	Top Bank	15.7	15.9	15.8								Elevation (In Feet)
		0.1	0.2	-0.1								Incremental Change
		-2.1	-1.9	-2.0								Cumulative Change

Alpine CP 00

HDD East Site

Subsidence Monitor - Seawater Line

Baseline	Point	Subsidence Monitor - Cross-Section F										Description
Station	Description	See Drawing CE-CP00-134 for Survey Cross-Section Locations										
		9/20/2013	8/12/2014	8/24/2015	Future	Future	Future	Future	Future	Future	Future	Date
0+34	Gradebreak	17.4	17.5	17.6								Elevation (In Feet)
		0.0	0.1	0.1								Incremental Change
		-0.5	-0.4	-0.3								Cumulative Change
0+43	Gradebreak	16.7	17.1	17.1								Elevation (In Feet)
		-0.2	0.3	0.0								Incremental Change
		-0.5	-0.1	-0.1								Cumulative Change
0+46	Gradebreak	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Elevation (In Feet)
												Incremental Change
												Cumulative Change
0+52	Tundra	17.2	17.4	17.5								Elevation (In Feet)
		0.0	0.1	0.1								Incremental Change
		-0.6	-0.4	-0.3								Cumulative Change
***Note: Baseline Stationing Runs from North to South along Cross-Sections.												
***Note: Vertical Datum Adjusted Down Approximately 0.5 feet to reflet Actual Elevation per Differential Levels from CD-1, ran August 2007												

Baseline	Point	Subsidence Monitor - Cross-Section F										Description
Station	Description	See Drawing CE-CP00-134 for Survey Cross-Section Locations										
		9/8/2003	7/9/2004	7/28/2005	8/21/2006	8/30/2007	8/7/2008	8/3/2009	7/19/2010	8/4/2011	7/15/2012	Date
0+00	Tundra	17.9	17.9	18.2	18.3	17.7	17.7	17.3	17.3	17.3	17.3	Elevation (In Feet)
			0.0	0.3	0.1	-0.6	0.0	-0.4	0.0	0.0	0.0	Incremental Change
			0.0	0.3	0.4	-0.2	-0.2	-0.6	-0.6	-0.6	-0.6	Cumulative Change
0+10	Tundra	17.3	17.2	17.2	17.3	16.6	16.6	16.6	16.6	16.6	16.7	Elevation (In Feet)
			-0.1	0.0	0.1	-0.7	0.0	0.0	0.0	0.0	0.1	Incremental Change
			-0.1	-0.1	0.0	-0.7	-0.7	-0.7	-0.7	-0.7	-0.6	Cumulative Change
0+14	Gradebreak	18.0	18.0	18.0	18.0	16.6	N/A	N/A	N/A	N/A	N/A	Elevation (In Feet)
			0.0	0.0	0.0	-1.4						Incremental Change
			0.0	0.0	0.0	-1.4						Cumulative Change
0+20	Top Bank	17.5	17.5	17.6	17.6	16.6	16.6	16.4	16.3	16.1	16.1	Elevation (In Feet)
			0.0	0.1	0.0	-1.0	0.0	-0.2	-0.1	-0.2	0.0	Incremental Change
			0.0	0.1	0.1	-0.9	-0.9	-1.1	-1.2	-1.4	-1.4	Cumulative Change
0+21	Toe Bank	16.5	16.3	16.3	16.0	15.1	15.0	14.7	14.4	14.3	14.2	Elevation (In Feet)
			-0.2	0.0	-0.3	-0.9	-0.1	-0.3	-0.3	-0.2	-0.1	Incremental Change
			-0.2	-0.2	-0.5	-1.4	-1.5	-1.8	-2.1	-2.3	-2.4	Cumulative Change
0+24	CL Swale	15.0	12.5	15.0	13.8	13.4	13.7	13.7	13.4	13.4	13.7	Elevation (In Feet)
			-2.5	2.5	-1.2	-0.4	0.3	0.0	-0.3	0.0	0.3	Incremental Change
			-2.5	0.0	-1.2	-1.6	-1.4	-1.4	-1.6	-1.6	-1.3	Cumulative Change
0+26	Toe Bank	16.1	12.5	13.1	13.6	15.2	13.6	15.8	13.5	13.3	13.4	Elevation (In Feet)
			-3.6	0.6	0.5	1.6	-1.6	2.2	-2.3	-0.2	0.2	Incremental Change
			-3.6	-3.0	-2.5	-0.9	-2.5	-0.3	-2.6	-2.8	-2.7	Cumulative Change
0+28	Top Bank	17.8	17.9	17.9	17.3	16.4	16.1	16.2	15.6	15.6	15.6	Elevation (In Feet)
			0.1	0.0	-0.6	-0.9	-0.3	0.1	-0.6	0.0	0.0	Incremental Change
			0.1	0.1	-0.5	-1.4	-1.7	-1.6	-2.2	-2.2	-2.3	Cumulative Change

Alpine CP 00

HDD East Site

Subsidence Monitor - Seawater Line

Baseline	Point	Subsidence Monitor - Cross-Section F										Description
Station	Description	See Drawing CE-CP00-134 for Survey Cross-Section Locations										
		9/8/2003	7/9/2004	7/28/2005	8/21/2006	8/30/2007	8/7/2008	8/3/2009	7/19/2010	8/4/2011	7/15/2012	Date
0+34	Gradebreak	17.9	17.9	18.0	18.0	17.4	17.5	17.4	17.3	17.4	17.4	Elevation (In Feet)
			0.0	0.1	0.0	-0.6	0.1	-0.1	-0.1	0.1	-0.1	Incremental Change
			0.0	0.1	0.1	-0.5	-0.4	-0.5	-0.6	-0.5	-0.5	Cumulative Change
0+43	Gradebreak	17.2	17.3	17.2	17.4	16.8	16.8	16.7	16.7	16.8	16.9	Elevation (In Feet)
			0.1	-0.1	0.2	-0.6	0.0	-0.1	0.0	0.1	0.1	Incremental Change
			0.1	0.0	0.2	-0.4	-0.4	-0.5	-0.5	-0.4	-0.3	Cumulative Change
0+46	Gradebreak	17.8	17.8	17.8	17.6	17.0	N/A	N/A	N/A	N/A	N/A	Elevation (In Feet)
			0.0	0.0	-0.2	-0.6						Incremental Change
			0.0	0.0	-0.2	-0.8						Cumulative Change
0+52	Tundra	17.8	17.9	17.9	18.0	17.3	17.4	17.3	17.1	17.1	17.3	Elevation (In Feet)
			0.1	0.0	0.1	-0.7	0.1	-0.1	-0.2	0.0	0.2	Incremental Change
			0.1	0.1	0.2	-0.5	-0.4	-0.5	-0.7	-0.7	-0.6	Cumulative Change
***Note: Baseline Stationing Runs from North to South along Cross-Sections.												
***Note: Vertical Datum Adjusted Down Approximately 0.5 feet to reflet Actual Elevation per Differential Levels from CD-1, ran August 2007												

Alpine CP 00
HDD East Site
Subsidence Monitor - Seawater Line

Baseline	Point	Subsidence Monitor - Cross-Section G										Description
Station	Description	See Drawing CE-CP00-134 for Survey Cross-Section Locations										
		9/20/2013	8/12/2014	8/24/2015	Future	Future	Future	Future	Future	Future	Future	Date
0+00	Tundra	16.4	16.6	16.6								Elevation (In Feet)
		-0.1	0.2	0.0								Incremental Change
		-0.7	-0.5	-0.5								Cumulative Change
0+09	Tundra	16.5	16.6	16.7								Elevation (In Feet)
		0.0	0.1	0.1								Incremental Change
		-0.7	-0.6	-0.5								Cumulative Change
0+16	Gradebreak	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Elevation (In Feet)
												Incremental Change
												Cumulative Change
0+22	Top Bank	16.8	17.0	17.1								Elevation (In Feet)
		-0.2	0.3	0.1								Incremental Change
		-0.8	-0.6	-0.5								Cumulative Change
0+24	Toe Bank	16.3	16.4	16.6								Elevation (In Feet)
		-0.1	0.1	0.2								Incremental Change
		-0.6	-0.5	-0.3								Cumulative Change
0+26	CL Swale	16.4	16.4	16.2								Elevation (In Feet)
		0.4	0.0	-0.2								Incremental Change
		-0.1	-0.1	-0.3								Cumulative Change
0+28	Toe Bank	16.4	16.3	16.3								Elevation (In Feet)
		0.1	0.0	0.0								Incremental Change
		-0.4	-0.5	-0.5								Cumulative Change
0+30	Top Bank	17.2	17.4	17.6								Elevation (In Feet)
		0.0	0.1	0.2								Incremental Change
		-0.5	-0.3	-0.1								Cumulative Change

Alpine CP 00
HDD East Site
Subsidence Monitor - Seawater Line

Baseline	Point	Subsidence Monitor - Cross-Section G										Description
Station	Description	See Drawing CE-CP00-134 for Survey Cross-Section Locations										
		9/20/2013	8/12/2014	8/24/2015	Future	Future	Future	Future	Future	Future	Future	Date
0+37	Tundra	17.0	17.3	17.3								Elevation (In Feet)
		-0.1	0.3	0.0								Incremental Change
		-0.6	-0.3	-0.3								Cumulative Change
0+46	Tundra	16.7	16.8	17.0								Elevation (In Feet)
		0.0	0.1	0.2								Incremental Change
		-0.6	-0.5	-0.3								Cumulative Change
***Note: Baseline Stationing Runs from North to South along Cross-Sections.												
***Note: Vertical Datum Adjusted Down Approximately 0.5 feet to reflet Actual Elevation per Differential Levels from CD-1, ran August 2007												

Alpine CP 00
HDD East Site
Subsidence Monitor - Seawater Line

Baseline	Point	Subsidence Monitor - Cross-Section G										Description
Station	Description	See Drawing CE-CP00-134 for Survey Cross-Section Locations										
		9/8/2003	7/9/2004	7/28/2005	8/21/2006	8/30/2007	8/7/2008	8/3/2009	7/19/2010	8/4/2011	7/15/2012	Date
0+00	Tundra	17.1	17.3	17.4	17.5	16.8	16.9	16.4	16.3	16.5	16.5	Elevation (In Feet)
			0.2	0.1	0.1	-0.7	0.1	-0.5	-0.1	0.2	0.1	Incremental Change
			0.2	0.3	0.4	-0.3	-0.2	-0.7	-0.8	-0.6	-0.6	Cumulative Change
0+09	Tundra	17.2	17.1	17.2	17.3	16.6	16.9	16.5	16.4	16.4	16.5	Elevation (In Feet)
			-0.1	0.1	0.1	-0.7	0.3	-0.4	-0.1	0.0	0.1	Incremental Change
			-0.1	0.0	0.1	-0.6	-0.3	-0.7	-0.8	-0.8	-0.7	Cumulative Change
0+16	Gradebreak	17.9	17.9	17.9	17.5	16.8	N/A	N/A	N/A	N/A	N/A	Elevation (In Feet)
			0.0	0.0	-0.4	-0.7						Incremental Change
			0.0	0.0	-0.4	-1.1						Cumulative Change
0+22	Top Bank	17.6	17.7	17.7	17.8	17.0	17.1	16.9	16.9	16.9	16.9	Elevation (In Feet)
			0.1	0.0	0.1	-0.8	0.1	-0.1	0.0	0.0	0.0	Incremental Change
			0.1	0.1	0.1	-0.6	-0.5	-0.7	-0.7	-0.7	-0.7	Cumulative Change
0+24	Toe Bank	16.9	17.0	17.0	17.0	16.2	16.3	16.2	16.3	16.4	16.4	Elevation (In Feet)
			0.1	0.0	0.0	-0.8	0.1	0.0	0.1	0.1	0.0	Incremental Change
			0.1	0.1	0.1	-0.7	-0.6	-0.7	-0.6	-0.5	-0.5	Cumulative Change
0+26	CL Swale	16.5	16.5	16.5	16.5	16.3	16.1	16.0	16.0	15.9	16.0	Elevation (In Feet)
			0.0	0.0	0.0	-0.2	-0.2	-0.1	0.0	-0.1	0.1	Incremental Change
			0.0	0.0	0.0	-0.2	-0.4	-0.5	-0.5	-0.6	-0.5	Cumulative Change
0+28	Toe Bank	16.8	16.7	16.9	16.9	16.3	16.3	16.3	16.1	16.3	16.3	Elevation (In Feet)
			-0.1	0.2	0.0	-0.6	-0.1	0.0	-0.2	0.2	0.0	Incremental Change
			-0.1	0.1	0.1	-0.5	-0.6	-0.5	-0.7	-0.5	-0.5	Cumulative Change
0+30	Top Bank	17.7	17.8	17.8	17.9	17.3	17.3	17.2	17.1	17.3	17.3	Elevation (In Feet)
			0.1	0.0	0.1	-0.6	0.0	-0.1	-0.1	0.2	0.0	Incremental Change
			0.1	0.1	0.2	-0.4	-0.4	-0.5	-0.6	-0.4	-0.4	Cumulative Change

Alpine CP 00

HDD East Site

Subsidence Monitor - Seawater Line

Baseline	Point	Subsidence Monitor - Cross-Section G										Description
Station	Description	See Drawing CE-CP00-134 for Survey Cross-Section Locations										
		9/8/2003	7/9/2004	7/28/2005	8/21/2006	8/30/2007	8/7/2008	8/3/2009	7/19/2010	8/4/2011	7/15/2012	Date
0+37	Tundra	17.6	17.6	17.6	17.7	17.0	17.3	17.1	16.9	17.1	17.2	Elevation (In Feet)
			0.0	0.0	0.1	-0.7	0.3	-0.2	-0.2	0.2	0.0	Incremental Change
			0.0	0.0	0.1	-0.6	-0.3	-0.6	-0.7	-0.5	-0.5	Cumulative Change
0+46	Tundra	17.3	17.3	17.3	17.4	16.8	16.8	16.7	16.6	16.7	16.7	Elevation (In Feet)
			0.0	0.0	0.1	-0.6	0.0	-0.1	-0.1	0.1	0.0	Incremental Change
			0.0	0.0	0.1	-0.5	-0.5	-0.6	-0.7	-0.6	-0.6	Cumulative Change
***Note: Baseline Stationing Runs from North to South along Cross-Sections.												
***Note: Vertical Datum Adjusted Down Approximately 0.5 feet to reflet Actual Elevation per Differential Levels from CD-1, ran August 2007												

Alpine CP 00
HDD East Site
Subsidence Monitor - Seawater Line

Baseline	Point	Subsidence Monitor - Cross-Section H										Description
Station	Description	See Drawing CE-CP00-134 for Survey Cross-Section Locations										
		9/20/2013	8/12/2014	8/24/2015	Future	Future	Future	Future	Future	Future	Future	Date
0+00	Tundra	16.0	16.2	16.4								Elevation (In Feet)
		-0.1	0.2	0.1								Incremental Change
		-1.0	-0.8	-0.6								Cumulative Change
0+09	Tundra	16.3	16.5	16.6								Elevation (In Feet)
		-0.1	0.1	0.1								Incremental Change
		-0.8	-0.6	-0.5								Cumulative Change
0+18	Gradebreak	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Elevation (In Feet)
												Incremental Change
												Cumulative Change
0+24	Top Bank	16.4	15.9	16.2								Elevation (In Feet)
		-0.1	-0.5	0.3								Incremental Change
		-0.9	-1.5	-1.1								Cumulative Change
0+25	Toe Bank	14.3	14.9	14.2								Elevation (In Feet)
		-0.5	0.5	-0.7								Incremental Change
		-2.5	-2.0	-2.6								Cumulative Change
0+28	CL Swale	14.1	14.3	13.5								Elevation (In Feet)
		-0.6	0.2	-0.8								Incremental Change
		-2.2	-2.0	-2.8								Cumulative Change
0+30	Toe Bank	14.0	14.3	14.5								Elevation (In Feet)
		-0.9	0.3	0.2								Incremental Change
		-2.7	-2.3	-2.1								Cumulative Change
0+32	Top Bank	15.8	15.8	16.1								Elevation (In Feet)
		-0.4	0.0	0.3								Incremental Change
		-1.8	-1.8	-1.5								Cumulative Change

Alpine CP 00

HDD East Site

Subsidence Monitor - Seawater Line

Baseline	Point	Subsidence Monitor - Cross-Section H										Description
Station	Description	See Drawing CE-CP00-134 for Survey Cross-Section Locations										
		9/20/2013	8/12/2014	8/24/2015	Future	Future	Future	Future	Future	Future	Future	Date
0+40	Gradebreak	17.5	17.7	17.9								Elevation (In Feet)
		-0.1	0.1	0.3								Incremental Change
		-0.7	-0.5	-0.3								Cumulative Change
0+42	Gradebreak	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Elevation (In Feet)
												Incremental Change
												Cumulative Change
0+50	Tundra	16.6	16.8	16.9								Elevation (In Feet)
		-0.1	0.2	0.1								Incremental Change
		-0.6	-0.4	-0.3								Cumulative Change
***Note: Baseline Stationing Runs from North to South along Cross-Sections.												
***Note: Vertical Datum Adjusted Down Approximately 0.5 feet to reflet Actual Elevation per Differential Levels from CD-1, ran August 2007.												

Alpine CP 00
HDD East Site
Subsidence Monitor - Seawater Line

Baseline	Point	Subsidence Monitor - Cross-Section H										Description
Station	Description	See Drawing CE-CP00-134 for Survey Cross-Section Locations										
		9/8/2003	7/9/2004	7/28/2005	8/21/2006	8/30/2007	8/7/2008	8/3/2009	7/19/2010	8/4/2011	7/15/2012	Date
0+00	Tundra	17.0	16.8	16.6	16.7	16.0	16.0	16.1	15.9	16.1	16.1	Elevation (In Feet)
			-0.2	-0.2	0.1	-0.7	0.0	0.1	-0.2	0.2	0.0	Incremental Change
			-0.2	-0.4	-0.3	-1.0	-1.0	-0.9	-1.1	-0.9	-0.9	Cumulative Change
0+09	Tundra	17.1	16.9	16.9	17.0	16.4	16.5	16.3	16.2	16.3	16.5	Elevation (In Feet)
			-0.2	0.0	0.1	-0.6	0.1	-0.1	-0.1	0.1	0.1	Incremental Change
			-0.2	-0.2	-0.1	-0.7	-0.7	-0.8	-0.9	-0.8	-0.6	Cumulative Change
0+18	Gradebreak	17.8	17.8	17.8	17.3	16.6	N/A	N/A	N/A	N/A	N/A	Elevation (In Feet)
			0.0	0.0	-0.5	-0.7						Incremental Change
			0.0	0.0	-0.5	-1.2						Cumulative Change
0+24	Top Bank	17.3	17.4	17.4	17.5	16.8	16.8	16.7	16.6	16.4	16.4	Elevation (In Feet)
			0.1	0.0	0.1	-0.6	0.0	-0.1	-0.1	-0.2	0.0	Incremental Change
			0.1	0.1	0.1	-0.5	-0.5	-0.6	-0.7	-0.9	-0.9	Cumulative Change
0+25	Toe Bank	16.8	16.4	16.6	16.6	15.9	15.9	15.7	15.3	15.1	14.9	Elevation (In Feet)
			-0.4	0.2	0.0	-0.7	0.0	-0.3	-0.4	-0.2	-0.2	Incremental Change
			-0.4	-0.2	-0.2	-0.9	-0.9	-1.1	-1.5	-1.7	-1.9	Cumulative Change
0+28	CL Swale	16.3	16.3	16.3	16.3	15.8	15.6	15.5	15.0	14.8	14.7	Elevation (In Feet)
			0.0	0.0	0.0	-0.5	-0.3	-0.1	-0.5	-0.2	-0.1	Incremental Change
			0.0	0.0	0.0	-0.5	-0.8	-0.8	-1.3	-1.5	-1.6	Cumulative Change
0+30	Toe Bank	16.6	16.6	16.4	16.5	15.8	15.9	15.9	15.5	15.2	14.9	Elevation (In Feet)
			0.0	-0.2	0.1	-0.7	0.1	0.0	-0.4	-0.3	-0.3	Incremental Change
			0.0	-0.2	-0.1	-0.8	-0.7	-0.7	-1.1	-1.4	-1.7	Cumulative Change
0+32	Top Bank	17.6	17.7	17.6	17.6	16.9	17.0	16.8	16.8	16.5	16.3	Elevation (In Feet)
			0.1	-0.1	0.0	-0.7	0.1	-0.2	0.0	-0.4	-0.2	Incremental Change
			0.1	0.0	0.0	-0.7	-0.6	-0.8	-0.8	-1.2	-1.3	Cumulative Change

Alpine CP 00
HDD East Site
Subsidence Monitor - Seawater Line

Baseline	Point	Subsidence Monitor - Cross-Section H										Description
Station	Description	See Drawing CE-CP00-134 for Survey Cross-Section Locations										
		9/8/2003	7/9/2004	7/28/2005	8/21/2006	8/30/2007	8/7/2008	8/3/2009	7/19/2010	8/4/2011	7/15/2012	Date
0+40	Gradebreak	18.2	18.2	18.2	18.3	17.6	17.7	17.6	17.5	17.6	17.6	Elevation (In Feet)
			0.0	0.0	0.1	-0.7	0.1	-0.1	-0.1	0.1	0.0	Incremental Change
			0.0	0.0	0.1	-0.6	-0.5	-0.6	-0.7	-0.6	-0.6	Cumulative Change
0+42	Gradebreak	17.7	17.7	17.8	17.9	17.2	N/A	N/A	N/A	N/A	N/A	Elevation (In Feet)
			0.0	0.1	0.1	-0.7						Incremental Change
			0.0	0.1	0.2	-0.5						Cumulative Change
0+50	Tundra	17.2	17.2	17.3	17.4	16.7	16.7	16.7	16.7	16.7	16.7	Elevation (In Feet)
			0.0	0.1	0.1	-0.7	0.0	0.0	0.0	0.0	0.0	Incremental Change
			0.0	0.1	0.2	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	Cumulative Change
***Note: Baseline Stationing Runs from North to South along Cross-Sections.												
***Note: Vertical Datum Adjusted Down Approximately 0.5 feet to reflet Actual Elevation per Differential Levels from CD-1, ran August 2007.												

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Michael Baker INTERNATIONAL

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