

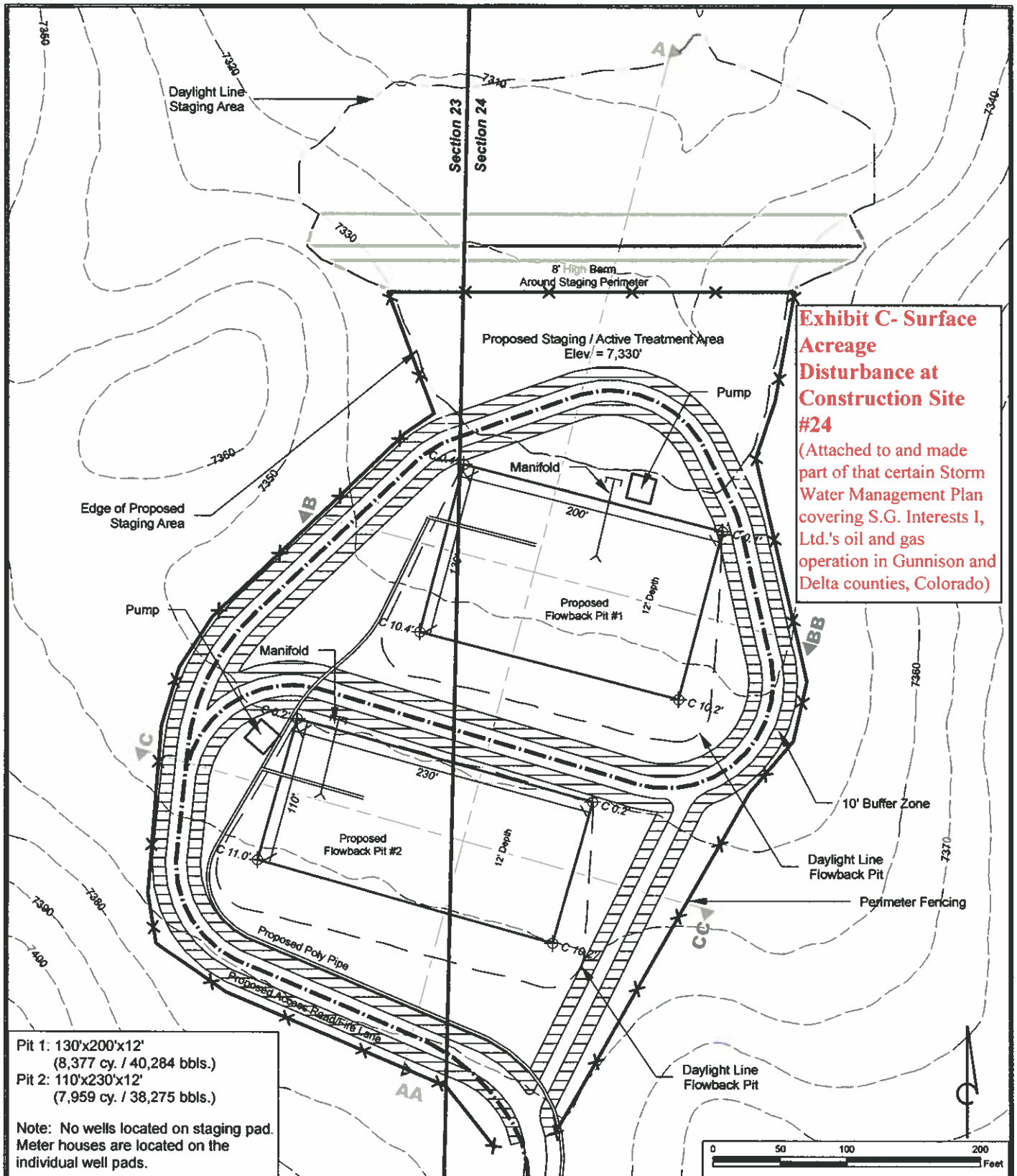
SGU BASIN?

<p>SG Interests PO Box 26 Montrose, CO 81402 970-252-0696</p>	<p>Notes: 1. Inner perimeter cut slopes = 2:1. 2. Outer perimeter cut slopes = 2.5:1.</p>	<p>SCALE: Horiz.: 1" = 100' Vert.: 1" = 50' DATE: 03.10.2011</p>
<p>Bull Mountain Unit T. 11 S, R. 90 W, Section 23 & 24</p>		
<p>McIntyre Flowback Pits 1 & 2 CONSTRUCTION CROSS SECTION</p>		

EXHIBIT C – SURFACE ACREAGE DISTURBANCE AT EACH CONSTRUCTION SITE

Exhibit C- Surface Acreage Disturbance at Construction Site #24

(Attached to and made part of that certain Storm Water Management Plan covering S.G. Interests I, Ltd.'s oil and gas operation in Gunnison and Delta counties, Colorado)



Pit 1: 130'x200'x12'
(8,377 cy. / 40,284 bbls.)
Pit 2: 110'x230'x12'
(7,959 cy. / 38,275 bbls.)

Note: No wells located on staging pad.
Meter houses are located on the individual well pads.

Estimated Dirt Quantities (cy)				
ITEM	CUT	FILL	EXCESS	
	SUBSOIL	TOPSOIL		
Pit 1	14,169	1,041	15,210 (C)	
Pit 2	13,860	1,057	14,917 (C)	
Staging		2,687	28,029	25,342 (F)
TOTAL	28,029	4,785	28,029	4,785 (C)

Notes:

1. Subsoil from pits cuts (28,029 cy.) used to create staging area.
2. Topsoil (4,785 cy.) stored in separate pile from staging area.
3. Topsoil volumes based on 8" soil depth.
4. Total Disturbed Area = +/- 4.0 Ac.

SCALE: 1" = 100'
DATE: 03.10.2011



SG Interests
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Bull Mountain Unit

T. 11 S, R. 90 W, Sections 23 & 24

McIntyre Flowback Pits 1 & 2

CONSTRUCTION LAYOUT

**EXHIBIT D – PLAT SHOWING LOCATION OF THE SEDIMENT
CONTROL DEVICES AT THE CONSTRUCTION SITE**

Sedimentation Basin - 16,560 ft³ with two 18" CMPs; one low CMP with slide gate & one high CMP for overflow. Daylight to natural channel.

Daylight Line Staging Area

24" CMP Culvert @ 10% grade. Install adjustable closure slide gates on CMP at inlet. Riprap discharge outlet area. Flow capacity = 29 cfs each.

Tributary Drainage Area = 10.72 acres
Pit 1 & 2 Surface Area = 1.79 acres
Net Drainage Area = 8.98 Acres

V-shaped borrowditch (typ.) diversion channel 18" deep with 2H:1V side slopes. Flow capacity = 27 cfs.

Edge of Proposed Staging Area

Extend synthetic liner 12" above finished pad grade around perimeter of all pits. (typ.).

Pump

Manifold

Proposed Flowback Pit #1

Proposed Flowback Pit #2

Trapezoid shaped diversion channel 2 ft deep with 2 ft wide bottom and 2H:1V side slopes

Pit 1: 130'x200'x12'
(8,377 cy. / 40,284 bbls.)
Pit 2: 110'x230'x12'
(7,959 cy. / 38,275 bbls.)

Note: No wells located on staging pad. Meter houses are located on the individual well pads.

Hay bales and/or wattles at runoff ditch terminus.

Hay bales and/or wattles at toe of slopes.

8" High Berm Around Staging Perimeter

Proposed Staging / Active Treatment Area Elev. = 7,330'

Pump

Manifold

Proposed Flowback Pit #1

Proposed Flowback Pit #2

24" CMP Culverts @ 2% minimum grade

10' Buffer Zone

Daylight Line Flowback Pit

Perimeter Fencing

Trapezoid shaped diversion channel 2 ft deep with 2 ft wide bottom and 2H:1V side slopes.

Daylight Line Flowback Pit

24" CMP Culvert @ 2% minimum grade

Estimated Dirt Quantities (cy)

ITEM	CUT	FILL	EXCESS
	SUBSOIL	TOPSOIL	
Pit 1	14,169	1,041	15,210 (C)
Pit 2	13,860	1,057	14,917 (C)
Staging		2,687	25,342 (F)
TOTAL	28,029	4,785	28,029 4,785 (C)

Notes:

1. Subsoil from pits cuts (28,029 cy.) used to create staging area.
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SCALE: 1" = 100'
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Bull Mountain Unit

T. 11 S, R. 90 W, Sections 23 & 24

McIntyre Flowback Pits 1 & 2

CONSTRUCTION LAYOUT

Technical drawing of a trench cross-section showing various layers and dimensions. The drawing includes the following labels and dimensions:

- ROUND CORNERS (TYP)**: Indicated at the top corners of the trench.
- ANCHOR TRENCH BACKFILL**: The material filling the trench.
- FINISHED GRADE**: The top surface of the trench.
- 1.0 FT.**: Dimension for the top width of the trench.
- 2.5 FT. MIN.**: Dimension for the bottom width of the trench.
- 1.5 FT. MIN.**: Dimension for the left side slope.
- 1.0 FT. MIN.**: Dimension for the right side slope.
- 1.5 FT. MIN.**: Dimension for the bottom width of the trench.
- 3.0 FT. MIN.**: Dimension for the bottom width of the trench.
- 60 MIL HPDE PRIMARY GEOMEMBRANE**: The primary liner material.
- 2H (TYP.)**: Dimension for the top width of the trench.
- 1V**: Dimension for the bottom width of the trench.
- 200 MIL HYPERNET GEONET DRAIN MAT**: The drainage layer.
- 36 MIL HPDE SECONDARY GEOMEMBRANE**: The secondary liner material.
- BENTONAT DN GEOSYNTHETIC BENTONITE LINER (CETCO)**: The bottom liner material.

***Subject to specific liner manufacturer's installation instructions**

McIntyre Flowback Pit 1

Pit Volume Calculations

Date: 10.25.2010



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	Width	Length	Depth	Side Slopes		Total Pit Volume		Free Board		Usable Volume	
				Run	Rise			Required	Volume		
	<i>Ft.</i>	<i>Ft.</i>	<i>Ft.</i>	<i>Ft.</i>	<i>Ft.</i>	<i>cy.</i>	<i>bbls.</i>	<i>ft.</i>	<i>cy.</i>	<i>cy.</i>	<i>bbls.</i>
Flowback Pit 1	130	200	12	2	1	8,377	40,284	2	1,830	6,547	31,485

*Volume Calculation = (Area of top + Area of Bottom + (4 * Area at Middle Height)) / 6 * Height*

McIntyre Flowback Pit 2

Pit Volume Calculations

Date: 10.25.2010



SG Interests
PO Box 26
Montrose, CO 81402
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	Width	Length	Depth	Side Slopes		Total Pit Volume		Free Board		Usable Volume	
				Run	Rise			Required	Volume		
	<i>Ft.</i>	<i>Ft.</i>	<i>Ft.</i>	<i>Ft.</i>	<i>Ft.</i>	<i>cy.</i>	<i>bbls.</i>	<i>ft.</i>	<i>cy.</i>	<i>cy.</i>	<i>bbls.</i>
Flowback Pit 2	110	230	12	2	1	7,959	38,275	2	1,775	6,184	29,739

*Volume Calculation = (Area of top + Area of Bottom + (4 * Area at Middle Height)) / 6 * Height*

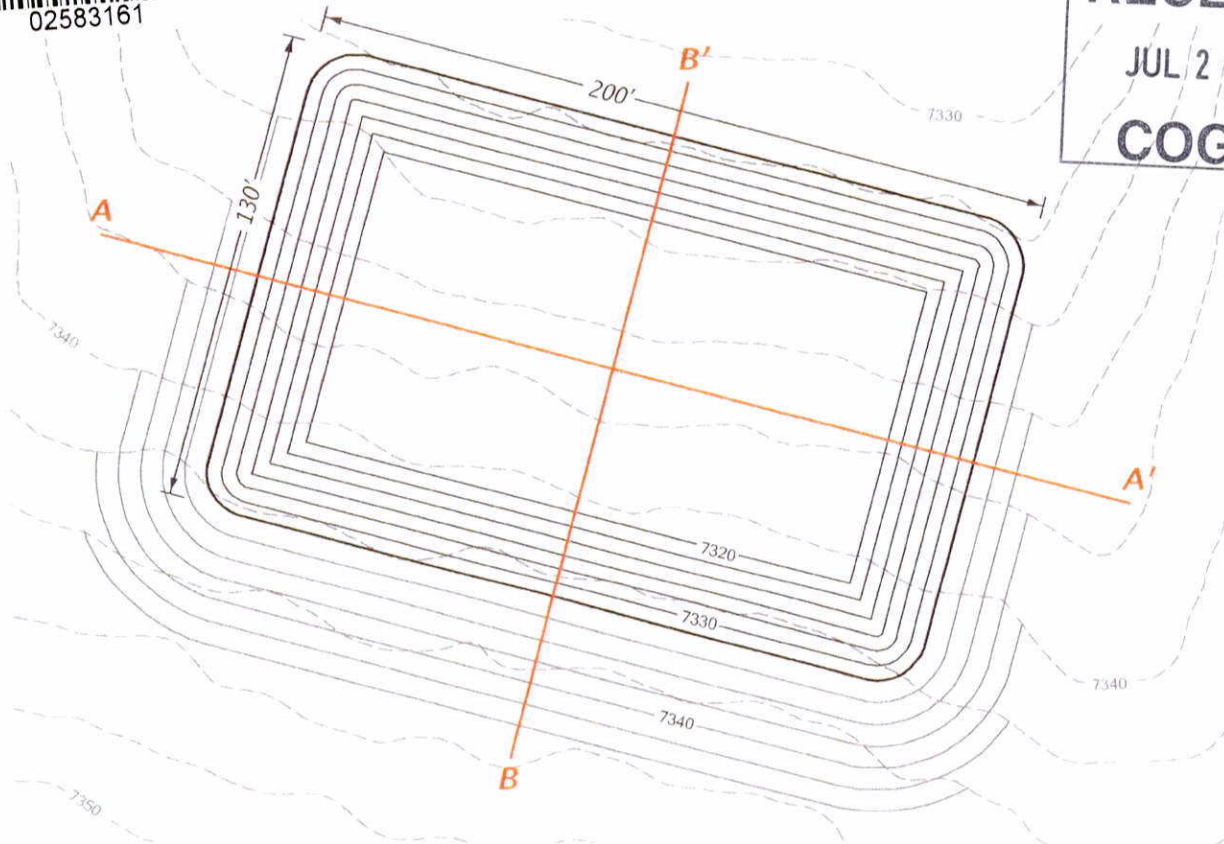


Other

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Scale: 1" = 50'

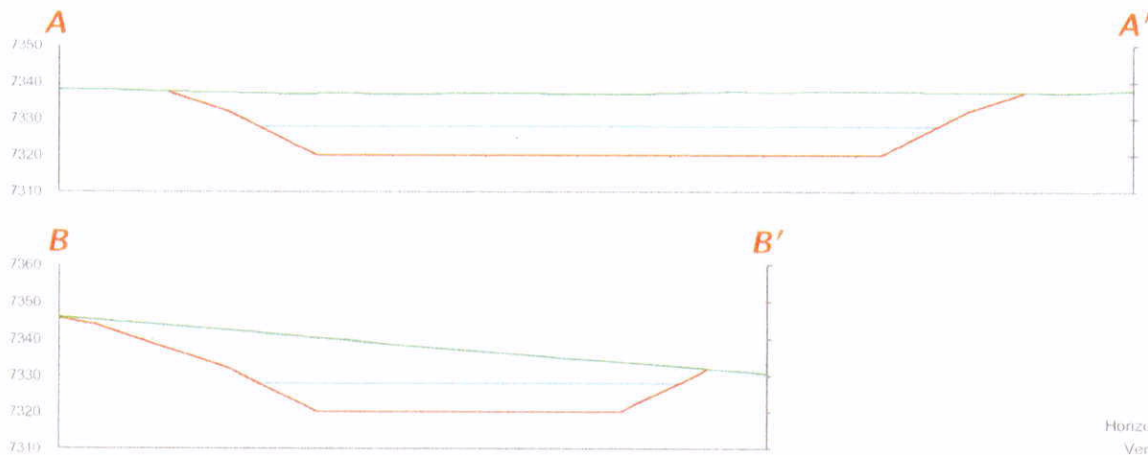


Existing Contour



Proposed Contour

PLAN



Horizontal Scale: 1" = 50'
Vertical Scale: 1" = 50'



Existing Grade Surface



Finished Grade Surface

SECTION

CALCULATIONS

Pit Perimeter Elevation: 7,332'
Pit Bottom Elevation: 7,320'
Pit Depth: 12'

Pit Width: 130'
Pit Length: 200'

Fluid Volume: 176,654 cu. ft.
6,543 cu. yds
31,463 bbls

Note:

Existing 2-ft surface contours interpolated from LIDAR base data. LIDAR data acquired in November 2008 with 1-meter posting resulting in < 6 in. vertical RMSE (Root Mean Square Error).

Disclaimer:

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McIntyre Flowback Pit #1

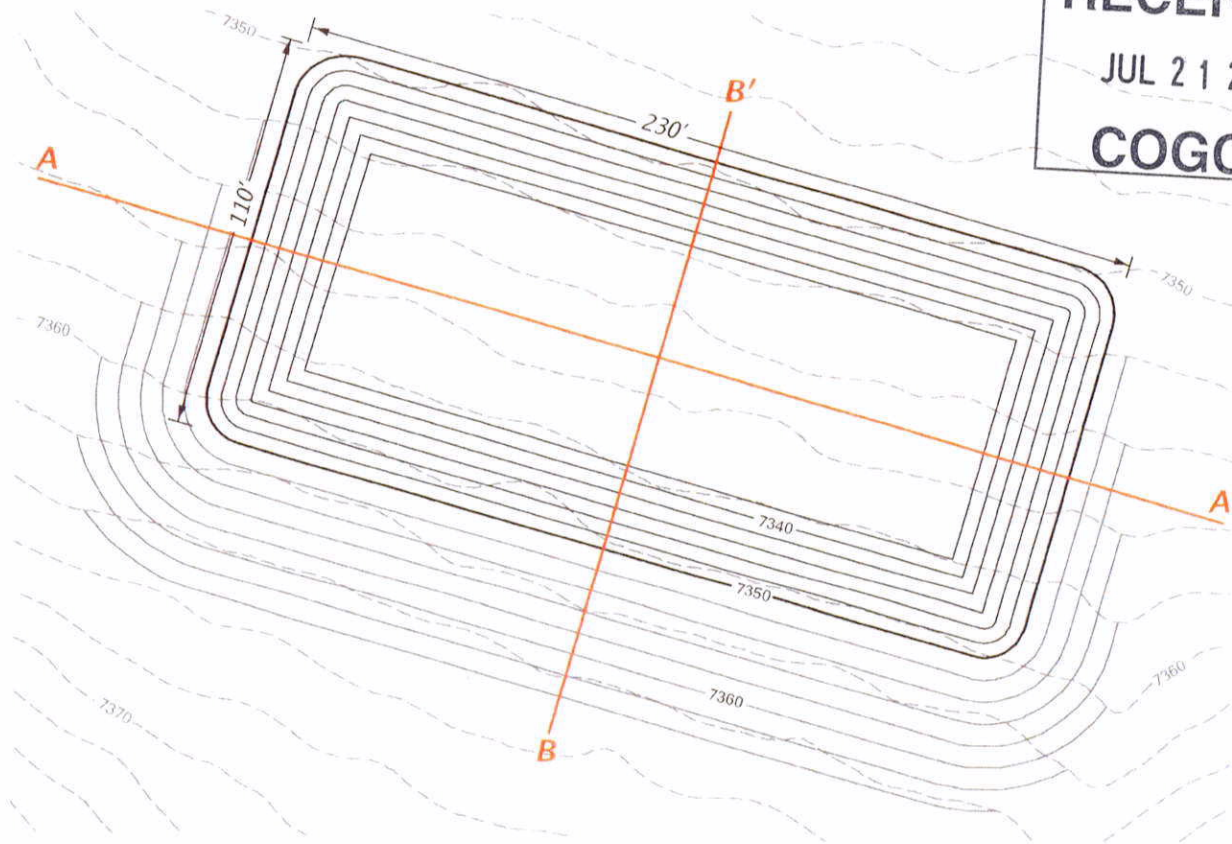
Pit Design & Cross Section
07.15.2010



SG Interests
PO Box 26
Montrose, CO 81402

Prepared By: ZDP
Prepared For: SG Interests, Ltd.
Contour Interval: 2 ft.

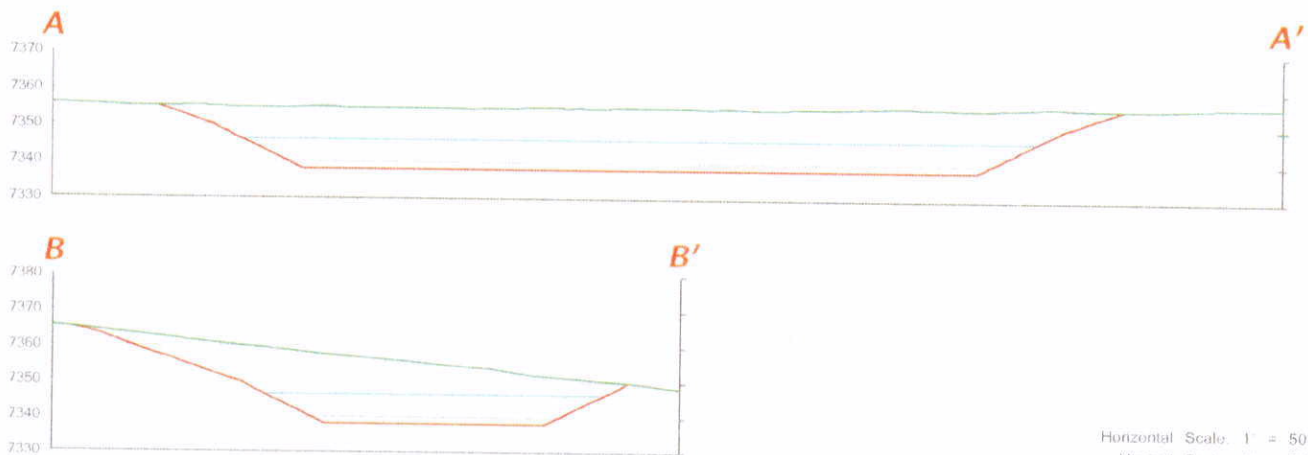
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Scale: 1" = 50'

Existing Contour Proposed Contour

PLAN



Horizontal Scale: 1" = 50'
Vertical Scale: 1" = 50'

Existing Grade Surface Finished Grade Surface

SECTION

CALCULATIONS

Pit Perimeter Elevation: 7,350'
Pit Bottom Elevation: 7,338'
Pit Depth: 12'

Pit Width: 110'
Pit Length: 230'

Fluid Volume: 166,866 cu. ft.
6,180 cu. yds.
29,720 bbls

Note:
Existing 2-ft surface contours interpolated from LIDAR base data. LIDAR data acquired in November 2008 with 1-meter posting resulting in < 6 in. vertical RMSE (Root Mean Square Error).

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McIntyre Flowback Pit #2

Pit Design & Cross Section
07.15.2010



SG Interests
PO Box 26
Montrose CO 81402

Prepared By: ZDP
Prepared For: SG Interests, Ltd.
Contour Interval: 2 ft.

Liner and Leak Detection System

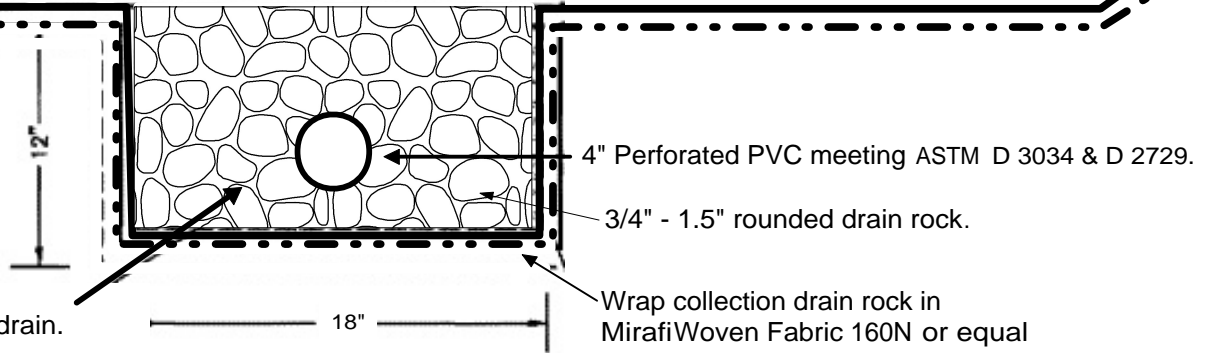
The leak detection system will be constructed at the low end (approximately 1 foot lower than the rest of the pit bottom) of the pit. The pit bottom will slope down toward this leak detection sump. The liner in the sump can be shaped into this rounded and sloped configuration and no special welding is required for the detection sump. All seams will be tested to the manufacturer's requirements. The following is a typical drawing of this leak detection system. Its actual shape will vary from this drawing based on field conditions.

Liner & Leak Detention System Details

Pit Liner System:

- * 60 milHDPE Liner (CL)
- * 200 milHypernetGeonetDrain Mat (GSE)
- * 36 milHDPE Liner (CL)
- * BentoMatDN Geosynthetic Bentonite Liner (CETCO)

Place pipe 2" above bottom of collection drain.
Slope pipe toward deep end of pit.



Monitoring Stand Pipe with 4" PVC
Removeable Cap to be located at
deep end of pit. Place steel fence
posts for protection.

Install Pocket Vents per manufacturer's
recommendations every 50 liner feet along
perimeter at top of liner. Vent to perforate
both HDPE liners.

- * 60 milHDPE Liner
- * 200 milHypernetGeonetDrain Mat
- * MirafiNX160 Fabric Wrap

4 ft. min.
Pad Grade

12" deep minimum anchor
trench per manufacturer's
instructions.

4" PVC meeting ASTM D 3034 & D 2729.

3/4" - 1.5" round drain rock.
(No crushed gravel allowed.)

4" Perforated PVC meeting ASTM D 3034 & D 2729.

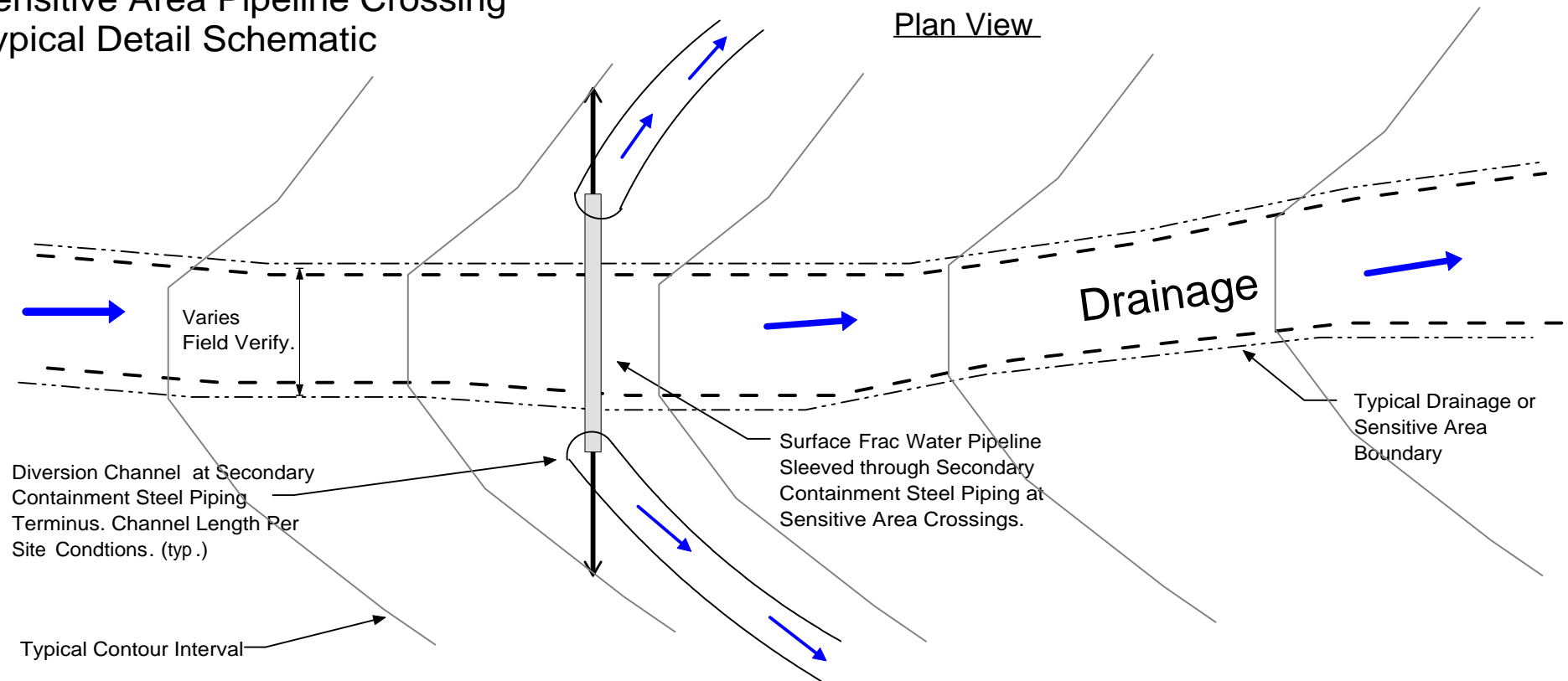
- * Mirafi160N Fabric Wrap
- * 36 milHDPE Liner
- * BentoMatDN Geosynthetic Bentonite Liner

* Install HPDE / Bentonite Liners;
Hypernetand Vent Pockets
per manufacturer's instructions.

Sensitive Area Pipeline Crossing

Where SG Interests uses a poly pipeline to transport water to or from the McIntyre Flowback Pits over a sensitive area (a stream, wetland or other waterbody), the poly pipe will be contained within a secondary containment system to prevent flowback fluids from contaminating the surface water in the event of a leak in the poly pipeline. The surface poly pipeline will be cased within a steel pipeline of larger diameter for the length of the sensitive area. The ends of the steel casing will extend from upland area to upland area through the entire sensitive area. At the ends of the steel casing, diversion channels will be constructed to direct fluid away from the sensitive area and into containment basins in the event of a leak in the surface poly line. The design of the diversion ditch and the containment basin will be site specific depending on local terrain in the vicinity of that particular crossing. These containment features will be designed by a qualified stormwater inspector with training and experience in sizing and designing these features. A qualified stormwater inspector will monitor and inspect all sensitive areas crossed by such poly pipelines on a daily basis during use and operation. A typical of this secondary containment system for use in sensitive area crossings follows this narrative.

SG Interest, I Ltd. Sensitive Area Pipeline Crossing Typical Detail Schematic



Notes:

* Pipelines hydraulic including total dynamic and static head pressures shall be verified to insure that the allowable working pressure of the pipeline is not compromised.

* Storm water and erosion control BMP's shall be installed as necessary by SG Interest, I Ltd. or designated contractor.

* Field verify location of all underground utilities, gas, water, phone, cable and electric lines. Call Before You Dig. Statewide One Call 1-800-922-1987.

*Verify field grades and elevations.

* Not to Scale.

