INNOVATIVE METHODOLOGY FOR DETECTION
OF
FRACTURE-CONTROLLED SWEET SPOTS
IN THE
NORTHERN APPALACHIAN BASIN
SEMI-ANNUAL TECHNICAL PROGRESS REPORT

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ABSTRACT

In the structure task, the goals for this reporting period were to: 1) complete field work on the NNW-SSE transect along the west side of Cayuga Lake; 2) collect data at additional field sites in order to a) trace structural trends between the two N-S transects and b) fill in data gaps on the N-S transect along the eastern shore of Seneca Lake; 3) enter the data gathered from the summer field work; 4) enter data from the previous field season that still had to be analyzed after a personnel change. We have completed data reduction for all the goals listed above, including the NNW-SSE transect on the west side of Cayuga Lake.

In the soil gas task, the goals for this reporting period were to: 1) trace Trenton/Black River fault trends between the two N-S transects; and 2) enter the data gathered from the summer field work. We have completed data reduction for all the goals listed above, and have begun constructing maps that portray the data.

These data continue to demonstrate that integration of aeromagnetic and Landsat lineaments, surface structure, soil gas and seismic allows us to extrapolate Trenton-Black River trends away from confirmatory seismic lines.

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LIST OF GRAPHICAL MATERIALS

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Figure 3.4-3 2002 Soil gas traverse locations (east)

1.0 INTRODUCTION

3-D seismic analysis is unquestionably one of the premier methods for obtaining information concerning deep structure, including predictions of enhanced fracture porosity in reservoirs. However, the high cost of 3-D seismic makes it economically unfeasible in many basins with *perceived* marginal gas reserves. However, without some advanced technology like 3-D seismic, the deep structure in many basins (like the Appalachian Basin of New York State) cannot be critically evaluated because available seismic reflection profiles and deep well logs provide insufficient control.

This research project demonstrates a cost-effective alternative to 3-D seismic. The project demonstration is a combination of low-cost, innovative technologies that, when integrated, yield near-3-D quality on a regional scale for identification of fractured reservoir prospects. The study area covers about 760 sq. miles, an area that would cost about \$22 million for 3-D seismic coverage alone; our proposal is a fraction of that cost.

The basic premise is that highly productive zones in tight reservoirs are associated with discrete zones of intense fracturing, termed “fracture intensification domains” (FIDs, Jacobi and Fountain, 1996, Jacobi and Xu, 1998). These zones can be identified by integration of surface geology, lineaments, well log data, seismic data and soil gas anomalies. FIDs in the northern Appalachian Basin have been shown to be indicative of fault zones at depth (Jacobi and Fountain, 1996, Jacobi and Xu, 1998). Thus, by identifying and tracing FIDs, we can predict the location of zones of increased fractures in the subsurface.

Because large gas discoveries (estimated 3 bcf/well) have been made recently along fault zones in the New York State portion of the Appalachian Basin, it is important to be able to recognize FIDs. Because of vegetation and surficial deposits, the FIDs cannot be traced continuously in outcrop. In order to trace the FIDs, we have developed an integrated program that involves:

1. surface structure,
2. soil gas analyses,
3. remotely-sensed lineaments,
4. existing (2-D) seismics, and
5. aeromagnetics.

Structural studies on outcrops allow identification of FIDs; then lineaments from aeromagnetic and remotely-sensed data are used to trace the FIDs between outcrops. Soil gas anomalies can confirm that the lineaments are associated with fracturing. Existing well log and seismic data are used to confirm the interpretations. Many of the fault systems in the northern Appalachian basin can be traced with aeromagnetics because the surface faults are reactivated deep faults that are located in the Precambrian basement.

The study area is located in the northern Appalachian Basin in the Finger Lakes region of central New York State, primarily between Seneca and Cayuga lakes. The target is the Ordovician Trenton/Black River groups, although fractured tight sands above the Trenton also occur in this area. The most prolific gas play in New York State today is the Glades Corners Road Field, an

Ordovician Trenton/Black River play that is located west of Keuka Lake. This field was developed by Columbia Natural Resources (CNR), who estimates that the yield/well is 1.3 bcf. The east-northeast trend of the Glodes Corners Road Field suggests that the Glodes Corners Road Field is located along faults that are reactivated structures related to the older Cambrian Rome Trough, which is assumed to trend approximately east-northeast in regions south of the play (Jacobi et al., 1999). Well logs from the Glodes Corners Road Field indicate a narrow fault zone that increases in stratigraphic offset upsection, increasing to 6 m in the Trenton.

On seismic reflection profiles, the Trenton plays occur along fault zones that appear as narrow (~2000') grabens with small regional offset. These grabens are thought to be a result of a combination of

- ◆ solution collapse,
- ◆ reverse flower structures (along strike-slip faults), and
- ◆ seismic pull-down from the lower velocities associated with dissolution and fault brecciation.

In order to procure and analyze the data necessary for the demonstration project, the integrated research project was divided into seven tasks. These tasks include:

- ◆ Traditional and innovative analyses of fractures (Jacobi),
- ◆ Stratigraphy/well log analyses (Jacobi and Loewenstein),
- ◆ Lineaments (Jacobi),
- ◆ Soil Gas Analyses (Fountain),
- ◆ Seismic Data Acquisition and Interpretation (Loewenstein and Jacobi),
- ◆ Advanced Seismic Analyses (Hart), and
- ◆ Aeromagnetic Survey and Analyses (deRidder).

During the third reporting period, we made significant progress, as outlined in the “Results and Discussion” section.

2.0 EXPERIMENTAL

2.1 FRACTURE ANALYSES SUBTASK

Jacobi and graduate students (Lugert and Wehn) used an abbreviated methodology to collect outcrop structural data during the second field season. In the abbreviated methodology, Jacobi and assistants identified the fracture sets in the outcrop, and measured the spacing among a minimum of three fractures for each systematic fracture set. They also measured the strike and dip of the fractures, and collected information concerning the abutting relationships, length/height, character of fracture trace (e.g., straight, curvy), and offset along the fracture. They constructed a sketch map in their field notebooks that showed the location of the outcrop and a sketch map of the fracture traces on the outcrop. They indicated the general site location in the field by tying an annotated ribbon to an overhead tree. The sketch map of the site also includes sufficient geographical markers to be able to identify the site location on the topographic base. They annotated the site of the outcrop on the enlarged topographic map base.

Jacobi and graduate students (Lugert and Wehn) entered all the site data and the fracture data in Excel data spreadsheets (Appendix 1 for sites, Appendix 2 for fracture data). For each site, the next step is to calculate the fracture frequency for each set. As most fractures are very steeply dipping ($80^{\circ}+$), modified rose diagrams can be used to portray the results. In these rose diagrams, fracture frequency is displayed in the top half of the diagram. We generally show three orders of magnitude on the diagram as successively larger concentric circles, with the inner circle representing 0.01 fractures/m, the middle ring representing 0.1 fracture/m, and the outer ring representing 1 fracture/m. Thus, long petals indicate a relatively high number of fractures, as did the old rose diagrams. The advantage of this modified diagram is that it is compatible with scanline data that we collected the first year. We use the lower half of the rose diagram to indicate other features of the fracture sets, commonly either abutting relationships, or length (which is a proxy for abutting relationships). The longest petals in the lower half indicate the master set; the next longest petals indicate the set that abuts the master set, but that is itself master to another fracture set, which is portrayed by even shorter petals.

Advanced analysis techniques, including fractal analysis and geostatistics (see Jacobi et al., 2001, for a review) will be carried out where these techniques will add to the understanding of the fracture development and significance of fractures for identifying deep structure. However, from the first two field seasons, the fracture data look to be very robust, so these techniques may not be necessary. The extent of outcrop was far greater than we had expected, and so the need for these special techniques that we developed especially for areas with limited outcrop, may not be necessary.

We had previously calculated the fracture frequency for all the fracture sets at each site, constructed modified rose diagrams for all the sites, and constructed a preliminary N-S transect that displayed the frequency of ENE-striking fractures.

2.2 STRATIGRAPHY/WELL LOG ANALYSES SUBTASK

Jacobi and Loewenstein will provide the project with 1) structure contours on bedrock marker beds that outcrop in the study area, and 2) subsurface structure contour maps based on distinctive units identified in well logs. Such maps shall aid in determining fault locations and offset. The construction of these maps is funded by an ongoing NYSERDA project. The contouring will be accomplished by a subroutine package in Geographix. The stratigraphic tops picked from well logs will follow the industry practice for recognizing each unit top; van Tyne and Foster's (1979) study illustrates such picks.

Jacobi and assistants will provide geological cross-sections across prominent surface structure where outcrops of marker units allow such constructions. The elevations of the marker units will be determined from topographic maps, and/or from altimeters, and/or from surveying from a known elevation.

2.3 LINEAMENTS SUBTASK

Jacobi and Loewenstein will combine lineaments recognized in Landsat images and in 7.5' topographic quadrangle maps. They will integrate Earthsat's (1997) pick of Landsat lineaments in the demonstration area with a reanalyzed Landsat data set. They will also analyze 7.5' topographic maps for lineaments following Jacobi and Fountain's (1996) methodology.

Jacobi will contribute an analysis of digital elevation data available from USGS for the study area. This analysis will include edited topography, a high-pass of the topography, and a horizontal gradient of the high-pass of the topography. We will compare lineaments observed in these gradient maps to those lineaments observed on the Landsat and 7.5' quadrangle maps.

The resulting series of maps of the demonstration area will include 1) Earthsat's Landsat lineament map, 2) our interpretation of lineaments from the Landsat data, 3) lineaments from 7.5' topographic quadrangle maps, 4) lineaments from gradient maps of Pearson, deRidder and Johnson, Inc. and 5) a map integrating all 4 data sets. We will compare the lineaments with the preliminary FID map. Where coincidence occurs between lineaments and FIDs observed in outcrop, we will extend the observed FID along the lineament. After the first iteration, we will compare the lineament/FID map with the soil gas analyses discussed below.

2.4 SOIL GAS ANALYSES

Soil gas surveys will be conducted along primarily north-south profiles, following existing seismic lines, and the general techniques and rationale of Jacobi and Fountain (1996) and Fountain and Jacobi (2000). In this research plan, traverses are conducted along the edge of roads and samples are collected at a distance of 3 to 10 meters from the road, depending on road construction, to avoid the roadbed fill material.

Samples are obtained by driving a stainless steel probe to a depth of 60 cm using a hand-held sledge hammer. Twenty cubic centimeters of air, slightly more than one probe volume, is withdrawn from the probe and discarded with an air tight syringe to purge atmospheric air from the probe. An additional 60 cc of air is then withdrawn with the syringe and injected directly into a gas chromatograph (GC) equipped with a flame ionization detector for analysis (a Century OVA 128 GC). Gas enters the probe through an array of holes approximately 5 cm above the tip; the holes are covered by a loose sliding collar that minimizes plugging during insertion.

Samples are collected at 10 m intervals. This distance is somewhat arbitrary; however, the results of over 10,000 analyses established that most anomalies are more than 10 m wide (Fountain and Jacobi, 2000), confirming that a 10 m spacing will detect most anomalies.

Linear response of the gas chromatograph is determined by analysis of standard gasses at the start of each day, after four hours of analyses, and at the end of each day. Samples are analyzed in duplicate every 10 samples.

All samples with 10 ppm or greater total organic vapor content are returned to the laboratory for analysis on a laboratory gas chromatograph to determine ethane/methane ratios. The GC is calibrated daily for response and elution times using standard gas mixtures.

2.5 SEISMIC DATA ACQUISITION, REPROCESSING, AND INTERPRETATION

Loewenstein will purchase available seismic lines and subcontract with seismic processors to reprocess the records where necessary. He will evaluate the reprocessing effort and be especially cognizant of statics problems. If such problems appear to exist, he will request that the processor reprocess any section that may exhibit such problems. Loewenstein and Jacobi will interpret the seismic lines for prominent stratigraphic reflectors and faults. Where recognizable, they will pick the reflectors that represent the Tully, Onondaga, Trenton, Black River and Precambrian/Cambrian contacts. They will use accepted industry practices for the reflector recognition (e.g., Jacobi and Fountain, 1996; Jacobi et al., 2000). The interpretation of the 2-D seismic will be displayed along the seismic line in depth (time) sections that show potential faults. These depth displays will be integrated with the surficial FID/soil gas/lineament maps in two ways: 1) the location of surficial FIDs/soil gas anomalies and lineaments will be shown above the depth section for ease in spatial correlation, and 2) the locations of deep structure (faults) as interpreted from the seismic line, will be entered in Geographix so that their locations can be compared in map view with the locations of the surficial FIDs/soil gas anomalies and lineaments.

2.6 ADVANCED SEISMIC ANALYSES

The seismic expression of faults is a function of several variables, including the fault offset and the frequency content of the seismic data. On migrated seismic lines, faults are most easily

recognized by reflection offsets, changes in dip, changes in amplitude, etc. Subtle faults are most easily detected in 3-D seismic volumes by deriving and analyzing “horizon” attributes, such as dip, edge detection and azimuth, or “coherency” attributes (e.g., Hart et al., 1996). Additionally, complex trace attributes (e.g., instantaneous frequency, reflection strength) can be useful for fault detection. In the manner described above, Hart will analyze critical sections of the seismic profiles procured in the preceding subtask.

2.7 AEROMAGNETIC SURVEY AND ANALYSES

Aeromagnetic prospecting is a powerful methodology that can define the basement fault block patterns with detail on a basinal scale. Pearson, deRidder and Johnson, Inc. will acquire, process, and interpret an aeromagnetic survey of the study area. Using both widely available techniques and proprietary methods, Pearson, deRidder and Johnson, Inc. and Jacobi will delineate basement-related structural elements that serve as bounding structures on intra-basement lithology blocks, supra-basement structural relief, and zones of strike-slip faulting that may be associated with fracture swarm development. In addition, the proprietary profile data interpretation tool, STARMAG, licensed by Texaco exclusively to Pearson, deRidder and Johnson, Inc., will be amended, using local constraints, to allow for improved models of magnetic lineaments related to fracture swarms.

Specifications shall be as follows:

Survey area:	710 square miles
Line spacing:	1/3- mile N-S x 1-mile E-W
Line mileage:	3,600 line miles
Ground clearance:	500' above ground level, or as to be decided
Acquisition subcontractor:	Airmag Surveys, Inc., Philadelphia, PA

The data will be processed using an equivalent source method, which compensates for elevation differences at line intersections, taking into account anomalous vertical magnetic gradients. Both profile and grid based interpretation methodologies will be employed to derive the maximum information content of the data set. The resulting maps can be used to infer lineaments related to faults in the basement, and can, in some cases, be used to determine approximate amount of offset on basement. Jacobi and Loewenstein will integrate the aeromagnetic lineaments with the FID/lineament/soil gas maps and seismic attribute studies. Spatial coincidence among aeromagnetic lineaments and the FID/lineament/soil gas/seismic line fractures (seismic attribute) maps will be taken as defining probable fault systems that affected the entire sedimentary section, including the Ordovician targets.

2.8 DRILLING AND TESTING OF VERIFICATION WELL

If at the Decision Point, it is determined to all parties' satisfaction that the project will continue to

Task 2.8, the subcontractor, Loewenstein, shall 1) drill an exploratory well at the site judged most likely to exhibit FIDs at depth, and 2) conduct a logging program that shall determine the nature of the intersected fractures. The offeror (Jacobi), subcontractor (Loewenstein), and the

Government shall select the drill site, based on all the integrated maps that portray the FIDs in the study area (including outcrop FIDs integrated with topographic and magnetic lineaments, soil gas anomalies and fracture systems suspected from the reprocessed seismic data). The offeror (Jacobi), subcontractor (Loewenstein), and the Government shall locate the drill site along a east-northeast trending FID. If north-striking FIDs are found to intersect the east-northeast FIDs, after discussion with the Government at the Decision Point, the offeror (Jacobi) and subcontractor (Loewenstein may choose the intersection point as the optimal drill site.

The subcontractor (Loewenstein), shall conduct the following logging program

- ◆ Mud Logging – Sample description and gas detection information that identifies mineralogies indicative of healed and partially healed fractures, as well as detection of gas entry points in the well bore at the time of drilling that might indicated fractured zones.
- ◆ Temperature and Acoustic Logs – Identify gas entry points in the well bore to correlate with other logging information.
- ◆ Formation imaging (Schlumberger Formation Micro Scanner) – “Direct” detection of fractured zones.
- ◆ Combinable Magnetic Resonance Logging – Identify zones of higher permeability and movable fluids.

The subcontractor (Loewenstein) shall be responsible for selective coring in the target. The subcontractor (Loewenstein) shall be responsible for obtaining sidewall cores for fracture and reservoir characterization. The offeror (Jacobi) shall digitally image the cores and characterize the fracture spacing, intersections and form (e.g., stylolitic) for each set that occurs in the cored interval.

3.0 RESULTS AND DISCUSSION

3.1 FRACTURE ANALYSES SUBTASK

The study areas are shown in Figure 3.1-1. We had five objectives for this reporting period:

- 1) complete field work on the NNW-SSE transect along the west side of Cayuga Lake;
- 2) fill in data gaps on the N-S transect along the eastern shore of Seneca Lake;
- 3) collect data at additional field sites in order to trace structural trends between the two N-S transects;
- 4) enter the data gathered from the summer field work;
- 5) enter data from the previous field season that still had to be analyzed after a personnel change.

Additionally, we began fieldwork east of Cayuga Lake in order to establish whether the Trenton/Black river trends continue farther east. We have completed data reduction for all the goals listed above.

For the first objective Jacobi and undergraduate students (Stroup and Stokes) collected data in regions where previously large data gaps existed in the NNW-SSE transect along Cayuga Lake. They similarly collected data in the few regions that remained without data along the N-S transect along Seneca Lake. For the third objective, Jacobi and associates began collecting data at outcrops between the two transects in the regions of the E-trending Firtree Anticline and in the region of the ENE-striking Trenton/Black River faults. The plan was to collect sufficient data to establish the validity of the two N-S transects; i.e., to test whether the same structural relationships could be found off the transects. The primary result were that Jacobi and associates were able to document:

- 1) general contrasting fracture relationships between fracture intensification domains (FIDs) related to the Firtree Anticline and those related to the Trenton/Black River faults, and
- 2) that the structural trends between the two transects are similar to those represented by the transects.

The general fracture relationship, established from numerous outcrops between the two transects, is that the FIDs related to the Firtree Anticline generally postdate the Alleghanian cross-strike fractures, whereas the FIDs related to the Trenton/Black River faults predate, or are contemporaneous with, the Alleghanian cross-strike fractures. These relationships suggest that the ENE-striking Trenton/Black River faults were reactivated before fractures related to the Firtree anticline developed. The fourth and fifth objectives were to enter all the data, and those data are displayed in Appendices 3.1-1, 3.1-2, 3.1-3, 3.1-4, and 3.1-5.

3.2 STRATIGRAPHY/WELL LOG ANALYSES SUBTASK

The results were reported in previous progress reports.

3.3 LINEAMENTS SUBTASK

The results were reported in previous progress reports.

3.4 SOIL GAS ANALYSES

The goals for this reporting period were to: 1) trace Trenton/Black River fault trends between the two N-S transects; and 2) enter the data gathered from the summer field work. Fountain and associates measured 3,034 samples in the field, and performed over 230 lab analyses. They collected 51.9 km (19.96 mi.) of traverses at a sample spacing of 10m. Entry of the field data is complete (Appendix 3.4-1), and profiles of soil gas values along the various traverses are shown in Appendix 3.4-2. Lab analyses are shown in Appendix 3.4-3. Fountain and Nelson have begun constructing maps that portray the data Figures 3.4-1, 3.4-2, and 3.4-3). A zone of soil gas anomalies appears to extend from the N-S transect in the west to the numerous spikes near the gas well in the east. The southern boundary of this zone corresponds to the southern boundary faults of a Trenton/Black River graben.

3.5 SEISMIC DATA ACQUISITION, REPROCESSING, AND INTERPRETATION

The results were reported in previous progress reports.

3.6 ADVANCED SEISMIC ANALYSES

The Advanced Seismic Analysis task continued to refine stratigraphic and structural analyses of the seismic data in 2001-2002. Participants include Kamal Al Atroshi and Bruce Hart of the McGill Seismic Research Group (McGill University, Montreal, QC, CANADA H3A 2A7). Loewenstein, Al Atroshi, and Jacobi met at the Niagara Falls IOGA meeting in November to review the progress. Although significant discoveries have been made, the subcontractor has not been able to supply an update for this report.

3.7 AEROMAGNETIC SURVEY AND ANALYSES

Pearson, deRidder and Johnson, Inc. completed their task, and the final results were reported in a previous progress report.

3.8 DRILLING AND TESTING OF VERIFICATION WELL

Because the price of gas had been low during most of the reporting period, the subcontractor (Loewenstein) was not able to build a consortium that was willing to expend the funds to drill the well. The verification part of the research has therefore not been accomplished, and the DOE funds associated with the verification have not been expended. With the gas prices now high, the prospects of drilling are improving.

4.0 CONCLUSIONS

During this reporting period, we collected fracture and soil gas data in order to fill in gaps in the earlier data sets and to define the structure traces between the two N-S transects. In structure, these new data showed that it is possible to discriminate between FIDs related to the shallow Alleghanian Firtree Anticline and those related to the Trenton/Black River faults. The Trenton/Black River-related FIDs trend ENE in the study area and generally predate the Alleghanian cross-strike fractures. In contrast, the Firtree Anticline-related FIDs trend E-W and postdate the Alleghanian cross-strike fractures in the study area. This discrimination ability allows the Trenton/Black River faults to be recognized and extrapolated away from the seismic lines. Soil gas data displayed a number of ethane-charged soil gas “spikes” on transects where the Trenton/Black River faults are assumed to occur from integration of structure, seismic, aeromagnetics and lineaments. The soil gas team found a relatively large number of spikes in the region of the Trenton/Black River faults.

Location of the Soil Gas Traverses in Seneca and Schuyler Counties

Figure 3.4-1

2002 Soil Gas Traverse Locations

Colored lines indicate various soil gas traverses (red indicates a YR 2001 traverse). Circles indicate soil gas anomalies.

Figure 3.4-2

2002 Soil Gas Traverse Locations

Colored lines indicate various soil gas traverses. Circles indicate soil gas anomalies.

Figure 3.4-3

Appendix 3.1-1

Seneca and Cayuga Site Log 2002

Seneca and Cayuga Site Log 2002

site #	Date Measured	TOPO quad	map #	location	book #	pages	recorder	lake	site #
87 total sites									
1	7/16/2002	Dundee	6	Confer rd between 1st south of county line and lake shore	1	2->4	R D Jacobi	Seneca	1
1-A	7/16/2002	Dundee	6	outcrop wall at turn in the drive south of site 1	1	5	J Stroup	Seneca	1-A
2	7/16/2002	Dundee	6	gully at next to second corner. On county line	1	5	R D Jacobi	Seneca	2
3	7/17/2002	Lodi	7	end of Technor Rd at Sawmill Creek bellow closed bridge	1	6->8	R D Jacobi	Seneca	3
4	7/17/2002	Lodi	7	down stream from 3	2	4	J Stroup	Seneca	4
5	7/17/2002	Lodi	7	down stream from 4	1	10->11	R D Jacobi	Seneca	5
6	7/17/2002	Lodi	7	down stream from 5	1	12	R D Jacobi	Seneca	6
7	7/17/2002	Lodi	7	down stream from 6	1	6->8	J Stroup	Seneca	7
8	7/17/2002	Lodi	7	down stream from 7	1	14	R D Jacobi	Seneca	8
9	7/17/2002	Burdett	7	at junction with main branch of Sawmill Creek	1	16	R D Jacobi	Seneca	9
9-A	7/17/2002	Burdett	7	upstream from 9	1	16	R D Jacobi	Seneca	9-A
10	7/17/2002	Burdett	7	upstream from 9a	2	10	J Stroup	Seneca	10
11	7/17/2002	Burdett	7	upstream from 10	1	18	R D Jacobi	Seneca	11
12	7/18/2002	Trumansburg	2	creek behind Ashbery cottage north of Camp Burton	2	12	J Stroup	Cayuga	12
12-A	7/18/2002	Trumansburg	2	creek behind Ashbery cottage north of Camp Burton	1	20	R D Jacobi	Cayuga	12-A
12-b	7/18/2002	Trumansburg	2	creek behind Ashbery cottage north of Camp Burton	1	23	J Stroup	Cayuga	12-b
13	7/18/2002	Trumansburg	2	creek behind Ashbery cottage north of Camp Burton	1	25	R D Jacobi	Cayuga	13
14	7/18/2002	Trumansburg	2	creek behind Ashbery cottage north of Camp Burton	1	26	R D Jacobi	Cayuga	14
15	7/18/2002	Trumansburg	2	S side of Camp Barton loop outcrop on north side of road	1	27	R D Jacobi	Cayuga	15
16	7/18/2002	Trumansburg	2	Judy Abrums creek on Cayuga Lake	1	28	R D Jacobi	Cayuga	16
17	7/23/2002	Lodi	5	County Line Rd east of Interlocken Trail parking lot	1	29	R D Jacobi	Seneca	17
18	7/23/2002	Lodi	5	County Line Rd east of Interlocken Trail parking lot	1		R D Jacobi	Seneca	18
18-A	7/23/2002	Lodi	5	County Line Rd east of Interlocken Trail parking lot	1	31	R D Jacobi	Seneca	18-A
18-A'	7/23/2002	Lodi	5	County Line Rd east of Interlocken Trail parking lot	2	14	J Stroup	Seneca	18-A'
18-b	7/23/2002	Lodi	5	County Line Rd east of Interlocken Trail parking lot	1		R D Jacobi	Seneca	18-b
19	7/23/2002	Lodi	5	County Line Rd east of Interlocken Trail parking lot	2	15	P Stokes	Seneca	19
20	7/23/2002	Lodi	5	County Line Rd east of Interlocken Trail parking lot	1	33	R D Jacobi	Seneca	20

Seneca and Cayuga Site Log 2002

21	7/24/2002	Trumansburg	7	Tim's brother's grove Grove st N of Hector Land Use Area	2	16	J Stroup	Cayuga	21
21-A	7/24/2002	Trumansburg	7	upstream from 21	2	37/38	R D Jacobi	Cayuga	21-A
21-A	7/24/2002	Trumansburg	7	upstream from 21	2	17	J Stroup	Cayuga	21-A
21-B	7/24/2002	Trumansburg	7	upstream from 21	1	39/40	R D Jacobi	Cayuga	21-B
22	7/24/2002	Trumansburg	7	upstream from 21	2	19/20	J Stroup	Cayuga	22
23	7/24/2002	Trumansburg	7	downstream from 21 in Hector land use	1&2	1-43/2-21	R D Jacobi &	Cayuga	23
24	7/24/2002	Trumansburg	7	downstream from 21 in Hector land use	1&2	1-44/2-23	R D Jacobi &	Cayuga	24
25	7/24/2002	Trumansburg	6	Cole's gulley N of Hatch Rd	1&2	1-45/2-24	R D Jacobi &	Cayuga	25
26	7/24/2002	Trumansburg	6	Cole's gulley N of Hatch Rd	2	21	P Stokes	Cayuga	26
27	7/24/2002	Trumansburg	6	Cole's gulley N of Hatch Rd	1	47	R D Jacobi	Cayuga	27
28	7/24/2002	Trumansburg	6	Cole's gulley N of Hatch Rd	1&2	1-48/2-26	R D Jacobi &	Cayuga	28
29	7/25/2002	Trumansburg	1	gully west of Bergen Beach	1	50	R D Jacobi	Cayuga	29
30	7/25/2002	Trumansburg	1	gully west of Bergen Beach	1&2	52/53/2-27	R D Jacobi &	Cayuga	30
31	7/25/2002	Trumansburg	1	gully west of Bergen Beach	2	30/32	J Stroup	Cayuga	31
32	7/25/2002	Trumansburg	1	gully west of Bergen Beach	1	55	R D Jacobi	Cayuga	32
33	7/25/2002	Trumansburg	1	gully west of Bergen Beach	2	34	J Stroup	Cayuga	33
34	7/25/2002	Trumansburg	1	Holton Beach lower end of gully	1	58	R D Jacobi	Cayuga	34
35	7/25/2002	Trumansburg	1	Holton Beach upper end of gully	1	59/60	R D Jacobi	Cayuga	35
36	7/25/2002	Sheldrake	6	Interlaken Beach, falls of Tully LS	1&2	1-62/2-35	R D Jacobi &	Cayuga	36
37	7/25/2002	Sheldrake	6	Interlaken Beach, falls of Tully LS	1&2	-63/4/2-36/	R D Jacobi &	Cayuga	37
38	7/25/2002	Sheldrake	6	Interlaken Beach, falls of Tully LS	1&2	-64/5/2-37/	R D Jacobi &	Cayuga	38
39	7/26/2002	Burdett	3	Saw Mill Creek up stream of site 9 on main branch	1&2	66/8/2-39/4	R D Jacobi &	Seneca	39
40	7/26/2002	Burdett	3	Saw Mill Creek up stream of site 9 on main branch	1&2	1-69/2-42	R D Jacobi &	Seneca	40
41	7/26/2002	Burdett	2	along hiking trail off Parking Area Rd	1	71/72	R D Jacobi	Seneca	41
42	7/26/2002	Burdett	2	along hiking trail off Parking Area Rd	1	74	R D Jacobi	Seneca	42
43	8/6/2002	Burdett	4	road side off 414 just north 227 junction	1	75	R D Jacobi	Seneca	43
44	8/6/2002	Burdett	4	home site below Herron Ledge	1&2	1-77/2-44	R D Jacobi &	Seneca	44
45	8/6/2002	Burdett	4	home site on Herron Ledge off 414	1	77	R D Jacobi	Seneca	45
46	8/7/2002	Lodi	4	1st creek north of Caywood w side of Rt 414 most up stream	2	44/5	J Stroup	Seneca	46
46-A	8/7/2002	Lodi	4	1st creek north of Caywood w side of Rt 414	2	46	J Stroup	Seneca	46

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47	8/7/2002	Lodi	4	1st creek north of Caywood w side of Rt 414	1&2	-80/2-49/5	R D Jacobi &	Seneca	47
47-A	8/7/2002	Lodi	4	1st creek north of Caywood w side of Rt 414	2	47/8	J Stroup	Seneca	47-A
48	8/7/2002	Lodi	4	1st creek north of Caywood w side of Rt 414	1	82	R D Jacobi	Seneca	48
49	8/7/2002	Lodi	4	1st creek north of Caywood w side of Rt 414	2	51	J Stroup	Seneca	49
50	8/7/2002	Lodi	4	1st creek north of Caywood w side of Rt 414	1	83	R D Jacobi	Seneca	50
51	8/7/2002	Lodi	4	1st creek north of Caywood w side of Rt 414 most down stream	2	52	J Stroup	Seneca	51
52	8/7/2002	Lodi	4	2nd creek north of Caywood w side of Rt 414	1	84	R D Jacobi	Seneca	52
53	8/7/2002	Dundee	6	1st Rd north of boy scout camp along water north to south	2	53/4	J Stroup	Seneca	53
54	8/7/2002	Dundee	6	1st Rd north of boy scout camp along water north to south	2	55	J Stroup	Seneca	54
55	8/7/2002	Dundee	6	1st Rd north of boy scout camp along water north to south	1&2	-86/9/2-56/	R D Jacobi &	Seneca	55
56	8/7/2002	Dundee	6	1st Rd north of boy scout camp first bend in road	2	59/60	J Stroup	Seneca	56
57	8/8/2002	Burdett	3	creek north of Renoldsville and west of North Hill N to S	2	61	J Stroup	Seneca	57
57-A	8/8/2002	Burdett	3	creek north of Renoldsville and west of North Hill N to S	2	62	J Stroup	Seneca	57-A
58	8/8/2002	Burdett	3	creek north of Renoldsville and west of North Hill N to S	1&2	-91/2/2-63/	R D Jacobi &	Seneca	58
59	8/8/2002	Burdett	3	creek north of Renoldsville and west of North Hill N to S	1	92/93	R D Jacobi	Seneca	59
59-A	8/8/2002	Burdett	3	creek north of Renoldsville and west of North Hill N to S	2	65/6	J Stroup	Seneca	59-A
60	8/8/2002	Burdett	3	creek north of Renoldsville and west of North Hill N to S	1&2	1-94/2-67	R D Jacobi &	Seneca	60
61	8/8/2002	Trumansburg	1	top of gully at Interlaken Beach up stream to down stream	1&2	1-95/2-68	R D Jacobi &	Cayuga	61
62	8/8/2002	Trumansburg	1	top of gully at Interlaken Beach up stream to down stream	1	96	R D Jacobi	Cayuga	62
63	8/8/2002	Trumansburg	1	top of gully at Interlaken Beach up stream to down stream	2	69	P Stokes	Cayuga	63
64	8/8/2002	Trumansburg	1	top of gully at Interlaken Beach up stream to down stream	2	70	J Stroup	Cayuga	64
65	8/8/2002	Trumansburg	1	top of gully at Interlaken Beach up stream to down stream	1&2	1-98/2-71	R D Jacobi	Cayuga	65
66	8/8/2002	Sheldrake	6	top of gully at Interlaken Beach up stream to down stream	1	99	R D Jacobi	Cayuga	66
67	8/8/2002	Sheldrake	6	top of gully at Interlaken Beach up stream to down stream	1	100	R D Jacobi	Cayuga	67
67-A	8/8/2002	Sheldrake	6	top of gully at Interlaken Beach up stream to down stream	1	100	R D Jacobi	Cayuga	67-A
67-B	8/8/2002	Sheldrake	6	top of gully at Interlaken Beach up stream to down stream	1	101	R D Jacobi	Cayuga	67-B
68	8/8/2002	Lodi	6	just west of intersection Seneca Rd and Versa Rd in stream	1	102/	R D Jacobi	Cayuga	68
69	8/9/2002	Burdett	3	creek north of Renoldsville and west of North Hill S to N	1	104/105	J Stroup	Seneca	69
70	8/9/2002	Burdett	3	creek north of Renoldsville and west of North Hill S to N	1	106	J Stroup	Seneca	70
71	8/9/2002	Burdett	3	creek north of Renoldsville and west of North Hill S to N	1	107/108	J Stroup	Seneca	71

Appendix 3.1-2

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set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.	set / #
Site 1													
a-0	324	89e						shale & sandstone	1.9	8.8	2.2	0.547723	a-0
a-1	335	89w	m to B	1+m	3.5+m	.18m			2.1				a-1
a-2	335	90	m to B and C		13.3+m		composite	twist hackles 350	3				a-2
a-3	328	89e	int. C	1.7m	.52+m	.17m			1.8				a-3
b-1	89	82s	A A-2	.87+m	2.5+m	.02m	composite	shale & sandstone	1.52	2.34	1.17	0.494975	b-1
b-2	81						curving =		0.82				b-2
c-1	3	89e	A A-2	.25+m	1+m			shale & sandstone					c-1
c-2	3	86e	A A-1	.48+m	1.3+m				0.87				c-2
Site 1-A													
a-1	325	85e		2.2+m	1+m			homogeneous silt	3.7				a-1
a-2	330	86e		1+m	1+m								a-2
Site 2													
a-1	343	88e		6+m	10+m	.05m		shale & sandstone					a-1
b-1	68	89e	m to C	.67+m	3.1+m		planer						b-1
c-1	273		a B	.02m	.65m	.05m	planer	shale & sandstone	0.15	0.7	0.14	0.01	c-1
c-2	273								0.14				c-2
									0.13				
									0.15				
									0.13				
Site 3													
bed	N73E		bed dip .023m/1m					pic #20					
a-1	325	88w	A-1 is master	2+m	18+m	.07m	planer	sandstone					a-1
a-2	329	90		.29+m	7+m	.07m	planer		6.6	24.05	8.016667	2.157738	a-2
a-3	329	88e		.5m					6.95				a-3
a-4	325	88w		.15m	5+m	.03m			10.5				a-4
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.	set / #
b-1	77	66s	a A	.11m	.75+m		planer	curving <u>I</u> to A					b-1
b-2	84	78n	a A	.28+m		4.5m	curvy	sandstone	0.46	0.82	0.41	0.070711	b-2
b-3	83	88n	a A	.57+m					0.36				b-3
b-x	76	90	a A					curving <u>I</u> to A					b-x
b-y	76	84n	a A										b-y
c-1	50	90	m to B	18+m	1.25+m			restricted to 7.75m Ss					c-1

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Site 4													
a-1	323	85s	m to C	3+m	8+m	.11m			20	25.91	6.4775	10.04829	a-1
a-2	322	82s	m to C	3+m	8+m				0.41				a-2
a-3	328	88s		8+m	10+m	.11m			20				a-3
a-4	328	88s		1.5m	8+m			not all the way up	5				a-4
a-5	328	90		8+m	6.8+m			not all the way down	0.5				a-5
a-6	330	86s		9+m	7+m								a-6
b-1	90	88s	m to C a A	.02m	2.1+m	.07m			0.34	3.29	0.658	0.259846	b-1
b-2	88.5	88s	abutting C	.12m	2.1+m	.07m			0.8				b-2
b-3	85	87s	abutting C	.25m	.94m	.07m			0.55				b-3
b-4	92	88s		.055m	1.40+m	.07m			0.58				b-4
b-5	90	87s		.58m	8+m	.07m			1.02				b-5
c-1	54	85se	master to B	.04m	1.75m	.10m			5	10.6	3.533333	2.540341	c-1
c-2	54	84se	master to B	2m	6+m	.10m			0.6				c-2
c-3	54	88se	master to B	2m	6+m	.10m			5				c-3
c-4	56	72se	abutting A	3+m	4+m	.10m							c-4
d-1	75	82s	abutting A-3	.50m	5m	.07m			0.36	1.96	0.98	0.876812	d-1
d-2	79	89s	abutting A-3	.04m	5m	.07m			1.6				d-2
d-3	71	88s	abutting A-4	.50m	5m	.07m							d-3
d-4	86	88n	abutting A-5	.18m	4.8m	.07m							d-4
site 5													
a-1	79	80s		1+m	2+m	.03m	irregular	possible FID					a-1
a-2	75	85s		.3m	.4+m	.03m	irregular	it	0.51	2.01	0.5025	0.236837	a-2
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.	set / #
a-3	83	88s		.2m	.3+m	.03m	irregular		0.79				a-3
a-4	81	90	a B-2 int. B-1	.3m		.03m	irregular		0.21				a-4
a-5				1+m	8+m	.03m	irregular		0.5				a-5
b-1	333	89e		2+m	11+m		planer						b-1
b-2	331	83e		2+m	10+m		planer		1.22	24.29	8.096667	5.977594	b-2
b-3	331			.2+m	5+m		planer		11.02				b-3
b-4	327	88w	master to all C's						12.05				b-4
c-1	60	90	int. B3 & a A4			.08-.10m	planer	sandstone					c-1
c-2	60		int. B3 & a A4			.08-.10m	planer	sandstone	0.56	1.34	0.446667	0.147422	c-2
c-3	57		int. B3 & a A4			.08-.10m	planer	sandstone	0.28				c-3
									0.5				
d-1	84	71n		.5+m	4m	.08-.10m	irregular	sandstone					d-1
d-2	93		abutting C			.20m	irregular	sandstone	~1				d-2
d-3	84	85s					planer	sandstone					d-3
d-4	80						irregular	sandstone	0.58	1.25	0.416667	0.06364	d-4
									0.67				

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site 6													
a-1	325	90		3+m	25+m								a-1
a-2	325	85ne							2.72	13.07	3.2675	1.998723	a-2
a-3	324	90							6.1				a-3
twist	338							counter clockwise rotation					twist
a-4	328	90	intersecting B						1.4				a-4
									2.85				
b-1	55	89s	abutting A	.24+m			planer	thin interbedding					b-1
b-2	55	89s	abutting A	20+m	5.94m	.03m	planer		1.1	2.88	1.44	0.480833	b-2
b-3	54	87se		1.2+m	9+m				1.78				b-3
c-1	88	87s	abutting B	.13+m	2.7+m		wiggly						c-1
c-2	276		abutting B	.78+m			wiggly		5				c-2
c-3	272												c-3
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.	set / #
site 7													
a-1	70	70s	abutting C	.3+m	5m		planer						a-1
b-1	85	88s	abutting A	.01m	2.5m	.01m	wavy	curving perpendicular					b-1
b-2	85	74s	abutting A	.08m	1.85m		wavy	curving perpendicular					b-2
c-1	332	90	master to A	2+m	2+m		planer						c-1
site 8													
a-1	70	89n	abutting B-1	.5+m	9.2m	.05m		on eshlon					a-1
twist	53							counter clockwise					twist
a-2	72	90	abutting B-2	.14m	3m	.25m		on eshlon	0.64				a-2
twist	53												twist
a-3	74	85n	abutting B-2	.18m	3m			on eshlon	0.21				a-3
twist	54												twist
b-1	332	88e	master to A1	.2+m	3m				1.75				b-1
twist	345							clockwise					twist
b-2	334	85n	master to A1 & A2	.5m	8+m								b-2
twist	340- 358												twist
c-1	350	88w	master to E		2m				2	5.5	1.833333	0.763763	c-1
c-2	14	88w	mutually a D	.01m	2m				1				c-2
c-3	15	87w	int. B-2 & a Es	.1m	2m				2.5				c-3
d-1	80	87s	abutting C1&C2	.01+m	5m				1.5m				d-1
d-2	79	88n	abutting C1	.01+m	3m								d-2

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e-1	70	85n	intersecting B2	.2+m	9+m			radiating from a common	0.28	1.21	0.403333	0.180093	e-1
e-2	88	85n	intersecting B2	.01m	9+m			point	0.32				e-2
e-3	66	85n	intersecting B2	.05m	9+m				0.61				e-3
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.	set / #
site 9													
a-1	335	87e				.01m	planer						a-1
a-2	335		master to B						.3m				a-2
a-3	33~						wavy		16ft				a-3
b-1	278		curving <u>I</u> to A										b-1
b-2	90	77s											b-2
b-3									1.5ft				b-3
b-4									.015-.03m				b-4
b-5									.015-.03m				b-5
b-6									.015-.03m				b-6
b-7	276			3+m	6+m								b-7
site 10													
								sand and shale					
a-1	332	89e	master to C		1.25m				1.3	2.3	1.15	0.212132	a-1
a-2	332	89e	master to C		1.1m				1				a-2
b-1	332		abutting C1		.20m				0.1	1.09	0.181667	0.063061	b-1
b-2	332	89w	abutting C1		.21m				0.2				b-2
b-3	330		abutting C1		.20m				0.23				b-3
b-4	333	89e	abutting C1		.21m				0.14				b-4
b-5	335		abutting C1		.39m				0.15				b-5
b-6	331		abutting C1		.46m				0.27				b-6
c-1	253	87n	abutting A	.2m	6+m				1.25				c-1
site 11													
a-1	333	90								6.97	2.323333	2.005152	a-1
a-2	330								4.6				a-2
a-3								curving <u>I</u> to B	0.82				a-3
a-4	325								1.55				a-4
twist	337												twist
curve	333												curve
b-1	70		int. A1 & A4		4.6+m				4.37	17.04	2.84	0.835823	b-1
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.	set / #
b-2	80	83n											b-2
b-3	80	87s			.25m				2				b-3

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b-4									2.95					b-4
b-5	80					.03m		in shale close to	2.62					b-5
b-6								pencil cleavage	2.88					b-6
b-7						.005m			2.22					b-7
			site 12											
a-1	71	89s	master to B	20+m	20+m	.18m	silt & sand		0.6	8.29	1.381667	1.624086		a-1
twist	55							counter clockwise						twist
a-2	72	87s	master to B	10+m	20+m	.18m			3.6					a-2
a-3	71	82s	master to B	2+m	6+m	.07m			0.07					a-3
a-4	73	88s	master to B	.01+m	2m				0.07					a-4
a-5	74	85s	master to B	3+m	8m	.06m			3.3					a-5
a-6	71	88n	master to B	4+m	10+m	.18m			0.65					a-6
b-1	344	88w	a A & m to C		3+m		siltstone		0.4					b-1
twist	356													twist
c-1	329	88w	abutting to B	.20m	4m			one sand each	0.15	0.25	0.125	0.035355		c-1
c-2	325	83w	abutting to B	.07m	4m				0.1					c-2
c-3	331	88w	abutting to B	.06m	4m									c-3
			site 12A											
a-1	8	85w	possibly a B1											a-1
twist	1	85w												twist
a-2	3	87e							0.42					a-2
twist	8													twist
a-2	333	87e												a-2
a-3	8								0.1					a-3
b-1	68	80s												b-1
c-1	350	75e												c-1
c-2	345													c-2
	340	81e												
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.		set / #
d-1	51	83nw												d-1
d-2	45	85nw							0.31	1.301	0.1301	0.152184		d-2
									0.4					
									0.15					
									0.31					
d-3									0.022					d-3
d-4									0.028					d-4
									0.025					
									0.016					
									0.025					
									0.015					

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			site 12B										
a-1	358	71e											a-1
twist	350-340												twist
a-2	4	86e							0.77	5.43	0.301667	0.239343	a-2
a-3	354								0.28				a-3
a-4	354	88e							0.2				a-4
a-5	2	75e							0.27				a-5
a-6	1	68e							0.22				a-6
a-7	356								0.09				a-7
a-8	0								0.05				a-8
a-9	358	64e							0.08				a-9
a-10	359	87e							0.15				a-10
a-11	1	47e							0.26				a-11
a-12	353	60e							0.26				a-12
a-13	355	72e							0.16				a-13
a-14	7								0.17				a-14
a-15	355	58e							0.75				a-15
a-16	2	74e							0.81				a-16
a-17	1	86e							0.49				a-17
a-18	2								0.25				a-18
a-19									0.17				a-19
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.	set / #
			site 12C										
a-1	358									1	0.083333	0.068368	a-1
a-2	359												a-2
a-3	2								0.06				a-3
									0.2				
									0.06				
									0.04				
									0.05				
									0.035				
									0.08				
									0.01				
									0.075				
									0.05				
									0.1				
									0.24				
			site 13										
a-1	353	89e							2.65	7.89	0.6575	0.703021	a-1
a-2									1.08				a-2
a-3									0.1				a-3
a-4	357								0.64				a-4
twist	6												twist

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a-5									0.45				a-5
a-6	348								0.4				a-6
twist	355												twist
a-7									0.87				a-7
a-8									0.84				a-8
a-9									0.26				a-9
a-10									0.16				a-10
a-11									0.2				a-11
a-12									0.24				a-12
site 14													
a-1	343	89e	abutting B1							10.03	1.671667	1.044958	a-1
a-2	343	89w	intersecting B1						2.5				a-2
a-3	344	85e							3				a-3
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.	set / #
a-4	344	81w							0.71				a-4
a-5	343	88w							1.4				a-5
a-6	342	88w							0.32				a-6
a-7	346	82w							2.1				a-7
b-1	71	86n	abutting A3										b-1
b-2	70	85n	intersecting A6						3.3				b-2
b-3	69	88n	abutting A5										b-3
site 15													
a-1	344	89w		2+m	4+m	.24m							a-1
a-2	341												a-2
b-1	335							has twist hackles					b-1
b-2	336							counter clockwise					b-2
site 16													
a-1	72	85n	master to B										a-1
a-2	72	88n	master to B						2.13				a-2
b-1	341	86e	abutting A										b-1
b-2	334	82e	abutting A						2.24				b-2
site 17													
a-1	336	88w											a-1
a-1	335	88w											a-1
a-1	334	88e								2.235	0.447	0.384409	a-1
a-2	334	88w	hooks into A-1	.03+m	1.3+m			sandstone with ash layer	0.28				a-2
a-3	330	83w		.05+m	.08+m			ash .04m	0.38				a-3
a-4	333								1.125				a-4
a-5	331	89w	hooks into A-4	.01+m	.5-1+m		planer		0.21				a-5
a-6	331	76e					planer	curry end	0.24				a-6

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site 18A													
a-1	329	86w	master to B	.17m	.72m					4.41	1.1025	0.669944	a-1
a-2	331	89w	master to B and C	.11m	1.1+m				2				a-2
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.	set / #
a-3									1.2				a-3
a-4									0.74				a-4
a-5									0.47				a-5
b-1	80	88s	abutting A		.68+m		planer	to wiggly	0.05	0.58	0.096667	0.071461	b-1
b-2	78				.68+m			curving perpendicular	0.09				b-2
b-3	74	80n			.68+m				0.07				b-3
b-4	74				.68+m				0.06				b-4
b-5									0.07				b-5
b-6									0.24				b-6
c-1	84	70n					wavy			0.37	0.123333	0.075056	c-1
c-2	83	70n							0.05				c-2
c-3									0.12				c-3
c-4									0.2				c-4
site 18A'													
								site in road					
a-1	75	89w	abutting B						0.16	0.473	0.059125	0.042364	a-1
a-2	71		abutting B						0.045				a-2
a-3	81		abutting B						0.03				a-3
a-4	80		abutting B						0.07				a-4
a-5	81		abutting B						0.04				a-5
a-6	75		abutting B						0.04				a-6
a-7	80		abutting B						0.04				a-7
a-8	75		abutting B						0.048				a-8
b-1	331	89w	master to A	.04m	.3m	.002m	planer		0.255	0.955	0.318333	0.122916	b-1
b-2	331	84w	master to A	.04m	.48m		planer						b-2
b-3	329		master to A	.03m	.6m	.01m	planer		0.46				b-3
b-4	334	88w	master to A	.07m	2.2m		planer		0.24				b-4
c-1	7	80w		.05m	2.1m								c-1
			18 B is the same										
site 19													
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.	set / #
a-1	356	86w	master to B	.5m	.06m	.8m							a-1
b-1	88	88s	a A m to D-4	.5m	1m	.08m		curving to ENE	0.04				b-1
b-2	88	90	abuts A	.03m	1m								b-2

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c-1	75		master to B		1m				0.28					c-1
c-2	75	86w	master to D1-D3											c-2
d-1	26	74e	abuts C	.12m	.3m	.04m			0.14	0.48	0.12	0.058878		d-1
d-2	24		abuts C	.02m	.3m				0.12					d-2
d-3	26	86w	abuts C	.01+m	.3m			curvy cross joints	0.18					d-3
d-4	31	86w	m to C a B	.3m	.7m	.0m5	planer	locally wavy	0.04					d-4
			site 20											
a-1	333	90		.27+m	.64+m	.1+m	planer	shale + silt						a-1
a-2									5.25					a-2
a'-1	5	84w	master						2.78	10.12	2.53	0.346603		a'-1
a'-2	2	77w	master	.27+m	.6+m		planer	to wiggly	2.4					a'-2
a'-3	0	71w	master	.27+m	.6+m				2.84					a'-3
a'-4	3	74-89w					planer	to wiggly	2.1					a'-4
b-1	72	88n					wavy			0.115	0.0575	0.017678		b-1
b-2	75	85n					wavy		0.045					b-2
b-3	79	88n							0.07					b-3
c-1	90	90												c-1
c-2	84													c-2
c-3	84													c-3
			site 21											
			7/24/2002/21											
a-1	8			.07m	.5m			curving = to 340	0.2	1.71	0.342	0.216148		a-1
a-2	10			.04m	1.3m			sandstone	0.25					a-2
a-3	7			.035m	2m				0.22					a-3
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.		set / #
a-4	12			.10m					0.72					a-4
a-5	5			.04m	1.4m				0.32					a-5
a-6	358				.7m									a-6
b-1	70	88s	intersecting A	.5+m	9.5+m		planer							b-1
b-2	70	88s	abutting A	.2+m	3.65m		planer		3.61	8.24	2.746667	1.158548		b-2
b-3	72	84s	intersecting A				planer		3.2					b-3
b-3'	87	90												b-3'
b-4	70	88s	intersecting A	.5+m	7+m		planer		1.43					b-4
			site 21A											
			7/24/2002/21A											
a-1	338	86e	master to 285	.21m	.7m	.03m	planer		4	12.88	3.22	1.314255		a-1
a-2	335	88e	master to C	.95m	13m	.03m			4.6					a-2

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a-3	332	85e	master to B	.075m	5.4m				1.73				a-3
a-4	338	88e	master to B	.5m	8m				2.55				a-4
a-5	335	88w	master to B	.35m	6m								a-5
b-1	100	87s	master? To a	4+m	.96m								b-1
b-2	287	58n	curving abutting to a		.28m								b-2
b-3	284	78n	curving abutting to a	3+m	.49m				0.15	0.24	0.12	0.042426	b-3
b-4	285	65n	curving abutting to a	2+m	.41m				0.09				b-4
c-1	100		abutting A master to 70					70's cross joints	0.17	0.56	0.093333	0.04274	c-1
c-2	96								0.11				c-2
c-3	96								0.09				c-3
c-4	96								0.07				c-4
c-5	91								0.07				c-5
c-6	94								0.05				c-6
site 21B													
7/24/2002/21B													
a-1	33	90	abutting B1	.46+m	7+m		planer	siltstone 1-2m					a-1
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.	set / #
b-1	70	90											b-1
b-2	70	86s	master to C	.2+m	3.5+m		planer		7.43				b-2
c-1	88		abutting A1	.08m	1+m	.035m	wavy	bed dip .03m/1m	0.055	0.635	0.057727	0.015389	c-1
c-2	88	8n					wavy	strike NS dip to the west	0.075				c-2
c-3	89	74n					wavy	sandstone	0.055				c-3
c-4									0.065				c-4
c-5									0.075				c-5
c-6									0.08				c-6
c-7									0.06				c-7
c-8									0.04				c-8
c-9									0.05				c-9
c-10									0.03				c-10
c-11									0.05				c-11
site 22													
7/24/2002/22													
a-1	337	90	master to B	.4m	10+m				0.4				a-1
a-2	336	88e	master to B	.5m	8+m								a-2
b-1	70		abutting A	.3m	4+m	.04m			4	6.47	2.156667	1.815663	b-1
b-2	72	84s	abutting A	.3+m	3+m				0.37				b-2
b-3	70	88s	abutting A	.3+m					2.1				b-3
b-4	72	70s	abutting A	.13m	5+m								b-4

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c-1	298	87s	abutting A & B	.07m	.3m	.07m			1.5	2.5	1.25	0.353553	c-1
c-2	288	89s	abutting A & B	.09m	1.65m	.07m			1				c-2
d-1	90								0.06	0.31	0.051667	0.020412	d-1
d-2	87								0.04				d-2
d-3	91								0.08				d-3
d-4	86								0.05				d-4
d-5									0.06				d-5
d-6									0.02				d-6
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.	set / #
site 23													
7/24/2002/23													
a-1	335	87w	master to B	.5m	15.5+m				0.81	3.75	1.25	1.479899	a-1
a-2	338	82e	master to B	.45m	14.6+m				0.04				a-2
a-3	335	76e	master to B	.26m	15+m				2.9				a-3
b-1	70		abutting A	.3m	2.7+m				4				b-1
b-2	71	80s	abutting A	.5+m	3.5+m								b-2
c-1	88	85s	abutting A and B	.5+m	5+m	.04m	wavy	sandstone					c-1
c-2	86	75n				.04m							c-2
c-3	88					.04m							c-3
c-4						.04m			0.1	0.685	0.0685	0.039019	c-4
c-5						.04m			0.15				c-5
c-6						.01m		sandstone	0.045				c-6
c-7						.01m			0.02				c-7
c-8						.01m			0.04				c-8
c-9						.03m		sandstone	0.05				c-9
c-10						.03m			0.04				c-10
c-11						.03m			0.06				c-11
c-12						.03m			0.08				c-12
c-13						.03m			0.1				c-13
site 24													
7/24/2002/24													
a-1	71	85s	master to B	1m	2m	.025m			2.9	5.6	2.8	0.141421	a-1
a-2	70	79s	master to B	.5m	3m	.025m			2.7				a-2
a-3	71	88n	master to B	.1m	2m	.025m							a-3
b-1	95		abutting A	005-.04r	.3+m	.01m	wavy	sandstone					b-1
b-2	95	80n											b-2
b-3	90												b-3
b-4									0.08	1.25	0.096154	0.043067	b-4

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b-5									0.21					b-5
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.		set / #
b-6									0.055					b-6
b-7									0.1					b-7
b-8									0.04					b-8
b-9									0.07					b-9
b-10									0.09					b-10
b-11									0.07					b-11
b-12									0.08					b-12
b-13						.05m			0.095					b-13
b-14						.05m			0.12					b-14
b-15						.05m			0.1					b-15
b-16						.05m			0.14					b-16
			site 25											
			7/24/2002/25											
a-1	330		m to C a B						0.9					a-1
a-2	330													a-2
b-1	71	84s	master to A	4m	3+m			possible movement	0.16	1.14	0.57	0.579828		b-1
b-2	71	78s		2m	8.5m				0.98					b-2
c-1	6	90	abutting A & B						0.16	1.085	0.090417	0.051233		c-1
c-2	7	88e	abutting A & B						0.09					c-2
c-3	6	90	abutting A & B						0.185					c-3
c-4	6	88e	abutting A & B						0.17					c-4
c-5	7	88e	abutting A & B						0.05					c-5
c-6	9	89w	abutting A & B						0.075					c-6
c-7	12		abutting A & B						0.04					c-7
c-8	13		abutting A & B						0.055					c-8
c-9	18		abutting A & B						0.08					c-9
c-10	11		abutting A & B						0.05					c-10
c-11	9		abutting A & B						0.06					c-11
c-12	7		abutting A & B						0.07					c-12
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.		set / #
			site 25											
			7/24/2002/25											
a-1	332	88w												a-1
a-2	331	90	master to C						0.09	6.22	1.036667	1.427987		a-2
a-3	332	87e							1.23					a-3
a-4	335	87e	hooks to A-3						0.1					a-4
a-5	333	90							0.9					a-5

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a-6									0.12				a-6
a-7	330	73e							3.78				a-7
b-1	70	88s	intersecting A-3&4										b-1
b-2	70	89s	intersecting A-3&4						0.63	3.85	1.925	1.831407	b-2
b-3	70	88n	abutting A-1 int.A-3						3.22				b-3
			site 26										
			7-24-2002-26										
			intersects along scanline 340										
a-1								0.16	22.17				a-1
a-2								1.35		1.478	0.852502		a-2
a-3								1.47					a-3
a-4								1.58					a-4
a-5								2.11					a-5
a-6			stop					2.38					a-6
a-7			reset					1.25					a-7
a-8								1.42					a-8
a-9			stop					1.62					a-9
a-10			reset					0.38					a-10
a-11								0.69					a-11
a-12								0.99					a-12
a-13								1.26					a-13
a-14								1.82					a-14
a-15								3.69					a-15
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.	set / #
			site 27										
			7-24-2002-27										
b-1	68	87n	master		16.7+m		black shale			1.91	0.955	0.06364	b-1
b-2	67	88n	master						1				b-2
b-3	67	89s	master						0.91				b-3
c-1	348									3.43	1.143333	1.255083	c-1
c-2	1	51e							2.58				c-2
c-3	349	89w							0.26				c-3
									0.59				
d-1	335		abutting B										d-1
			site 28										
			7-24-2002-28										
a-1	59	90	master to B	.16m	10+m		bk shale	composite length 16m	0.75	4.34	0.868	0.504847	a-1

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a-2	72	80n	master to B	.10m	6+m		bk shale	hooks into A-1	1.54				a-2
a-3	69		master to B	.40m	6m,		bk shale		1.15				a-3
a-4	70	90	master to B	.40m	6m,		bk shale		0.2				a-4
a-5	68	88s	master to B	.20m	5m		bk shale		0.7				a-5
b-1	280	80s								2.09	0.696667	0.310215	b-1
b-2	295	~90	rving perpendicular to A						0.71				b-2
b-3	283	72n							0.38				b-3
									1				
			site 29										
			7-25-2002-29										
a-1	70	88s		.7m	4.5+m		planer	black shale	1+m				a-1
b-1	327	82sw			.7+m		planer						b-1
b'-1	354	64w			.7+m			wiggly to curving					b'-1
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.	set / #
b'-2	342	90			.96m				0.34				b'-2
b''-1	359	81e											b''-1
b'''-1	344	86w							2.18				b'''-1
			site 30										
			7-25-2002-30										
b-1	338	80w	intersecting C	.09m	2m				0.13	1.65	0.078571	0.062071	b-1
b-2	336	84w	intersecting C	.24m	1.5m				0.255				b-2
b-3	337	86w		.16m	1.1m				0.035				b-3
b-4	339			.16m	1.1m				0.035				b-4
b-5	339	88w		.16m	.70m				0.02				b-5
b-6	337	89e		.14m	1.5m				0.21				b-6
b-7	335	89e	inter C master to A	.19m	2.6m			currying parallel to D	0.125				b-7
b-8	332	87w		.25m	2.85m				0.04				b-8
b-9	332	87w	inter C and D						0.1				b-9
b-10									0.04				b-10
b-11									0.03				b-11
b-12									0.06				b-12
b-13									0.04				b-13
b-14									0.03				b-14
b-15									0.07				b-15
b-16									0.11				b-16
b-17									0.05				b-17
b-18									0.1				b-18
b-19	339	85w	abutting A and C						0.03				b-19

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b-20									0.1				b-20
b-21									0.04				b-21
c-1	75	83n	inter B master to A	.40+m	1.8m			hooks to C-2	0.22	3.515	0.3515	0.722919	c-1
c-2	74	84n		23+m	1.5m				0.135				c-2
c-3	70	77n		.11m	.48m				0.08				c-3
c-4	70	75n		.12m	.95m				0.11				c-4
c-5	70	77n		.02m	.42m				0.17				c-5
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.	set / #
c-6	64			.11m	.68m				0.02				c-6
c-7	70	81n		.05m	.55m				0.09				c-7
c-8	69			.03m	.48m				0.23				c-8
c-9				.35m	.34m				0.06				c-9
c-10									2.4				c-10
			site 30 A										
			7-25-2002-30 A										
a-1	2	88s	master to B&C		18+m	planer				4.42	0.884	0.608506	a-1
a-2	3		master to B&C		.96m	curvy			0.47				a-2
a-3	350	87w	abutting B			planer			1.76				a-3
a-4	~343				1.29m	curvy			0.47				a-4
									1.29				
									0.43				
b-1	328	86e			.69m				0.1	0.79	0.065833	0.03936	b-1
b-2	327	87e			.69m				0.065				b-2
b-3	325	88e			.70m				0.05				b-3
b-4									0.11				b-4
b-5									0.11				b-5
b-6									0.115				b-6
b-7									0.105				b-7
b-8									0.02				b-8
b-9									0.025				b-9
b-10					1.05m				0.02				b-10
b-11									0.035				b-11
b-12									0.035				b-12
c-1	70	87n	intersecting and master to B										c-1
			master to curvy A										
c-2	69	88s	master to curvy A						2.02				c-2
c-3			abutting planer A										c-3
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.	set / #
site 31													

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			7-25-2002-31					scanline at 69					
a-1	342	89w	start 68		6m					59.39	2.047931	1.311206	a-1
a-2	335	80e							1.8				a-2
a-3	339	88e							3.6				a-3
a-4									3.87				a-4
a-5									4.36				a-5
a-6			stop						4.97				a-6
a-7	339	82e	restart 69						0.4				a-7
a-8	338	82e							0.7				a-8
a-9	339	85e							0.88				a-9
a-10									1.15				a-10
a-11									1.27				a-11
a-12									1.64				a-12
a-13									1.8				a-13
a-14									2.4				a-14
a-15									2.7				a-15
a-16									3.18				a-16
a-17									3.47				a-17
a-18			stop						3.59				a-18
a-19			reset 64						0.29				a-19
a-20	337								0.58				a-20
a-21	335								0.73				a-21
a-22	337	88e							0.9				a-22
a-23									1.16				a-23
a-24	336	77e							1.41				a-24
a-25									1.54				a-25
a-26									2.08				a-26
a-27									2.3				a-27
a-28									3.06				a-28
a-29	330	81e							3.56				a-29
b-1	11	90	abutting A-c	1.75m	12m								b-1
			master to all other A's										
c-1	67	85e	intersecting A	2.5m	1.2m				0.61	1.11	0.37	0.219317	c-1
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.	set / #
c-2	65	80e	intersecting A	2m	.4m				0.18				c-2
c-3	64	80e	intersecting A	.4m	.3m				0.32				c-3
c-4	66	80e	intersecting A	2m	2.0m								c-4
			site 32										
			7-25-2002-32										
a-1	75	83n	master to B		7+m			hooks into A-2		4.95	1.65	0.314802	a-1
a-2	73	86n	master to all		9+m				2				a-2
a-3	75	85n			7+m				1.56				a-3
a-4									1.39				a-4

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b-0*	358	78e						upstream	1.4	7.25	2.416667	0.911281	b-0*
b-0								to	2.69				b-0
b-1	353	87e	abutting A-2					downstream					b-1
b-2	350	80e	abutting A-1&2						3.16				b-2
b-2*	353												b-2*
twist	343	90						counterclockwise					twist
c-1	313	76s	abutting B-0		2m								c-1
d-1	333	78w			3+m		planer	to curvy					d-1
d-2	333	81w			3+m		planer	to curvy	0.69				d-2
			site 33										
			7-25-2002-33										
a-1	14	86e	abutting B	.10m				fantail abutting	1.8	2.8	0.933333	0.752219	a-1
a-2	14	90	abutting B	.44m					0.45				a-2
a-3	15	90	abutting B	.40m					0.55				a-3
b-1	355	86e		.50m	6+m								b-1
c-1	284	75n	intersecting A	1m	2+m				0.5	1.35	0.675	0.247487	c-1
c-2	278	67n	intersecting A	1m	2+m				0.85				c-2
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.	set / #
			site 34										
			7-25-2002-34										
a-0	321	89w		1+m			curvy	appear to go	0.07	2.4	0.48	0.702033	a-0
a-1	323	84e		.8+m			planer	through the tully	0.16				a-1
a-2	324	80e		1+m			planer	spacing atop tully 4m	1.73				a-2
a-3	321	80e						tully 1.2m thick	0.18				a-3
a-4	327	86e						shale below 5m thick	0.26				a-4
a-5													a-5
b-1	54	58n	abutting A	.06+m	1.7m				0.7	2.815	0.563	0.254106	b-1
b-2	63	84n		.16+m	1.6m				0.9				b-2
b-3	60	83n		.09+m					0.585				b-3
b-4				.50+m					0.35				b-4
b-5									0.28				b-5
			site 35										
			7-25-2002-35										
a-1	75	85s		1+m			planer			7.74	1.548	1.608266	a-1
a-2	76	90		1+m			planer		0.25				a-2
a-3	77	88n					planer		4.15				a-3
a-4							planer		1.85				a-4

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a-5							planer		1.25				a-5
									0.24				
b-1	332	85w	intersecting A-1&2				planer			2.7	1.35	0.183848	b-1
b-2	330	84e					planer		1.48				b-2
b-3	324	74w					planer		1.22				b-3
c-1	305		abutting A				curvy		0.2	0.89	0.296667	0.090738	c-1
c-2	313								0.31				c-2
c-3	316	77w							0.38				c-3
c'-1	307	60sw				1.4m	wiggly		0.09	0.29	0.058	0.020494	c'-1
c'-2	311								0.04				c'-2
c'-3	309								0.06				c'-3
c'-4	302								0.06				c'-4
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.	set / #
c'-5	304								0.04				c'-5
			site 36										
			7-25-2002-36										
a-1			master to B		4.0+m			FID in wall 50m in from	0.29	1.43	0.143	0.064816	a-1
a-2					1.5m			Lake Cayuga	0.09				a-2
a-3	333	89w			1.5m			most fractures	0.14				a-3
a-4	329	88w			2m			discontinuous	0.19				a-4
a-5					1.0m				0.13				a-5
a-6					1.0m				0.16				a-6
a-7	340	89e			1.5m				0.09				a-7
a-8	333	87w			.30m				0.17				a-8
a-9	349	87w			1.0m				0.1				a-9
a-10					2.0m				0.07				a-10
b-0	66	83n		3+m	2.5+m					3.84	0.548571	0.487628	b-0
b-1	66	82n							1.25				b-1
b-2	65	80n							0.65				b-2
b-3	60	82n							0.27				b-3
b-4									1.18				b-4
b-5									0.12				b-5
b-6									0.18				b-6
b-7									0.19				b-7
			site 37										
			7-25-2002-37										
a-1	324	88w	all turning into 340					total length measured	0.04	1.32	0.055	0.023406	a-1
a-2	322	82e						1.4m	0.01				a-2
a-3	324	90						FID continues in both	0.03				a-3
a-4								directions	0.03				a-4

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a-5									0.03				a-5
a-6									0.07				a-6
a-7									0.08				a-7
a-8									0.06				a-8
a-9									0.08				a-9
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.	set / #
a-10									0.04				a-10
a-11									0.04				a-11
a-12									0.08				a-12
a-13									0.04				a-13
a-14									0.08				a-14
a-15									0.04				a-15
a-16	324	89e	abutting 340	1m	3.2m				0.1				a-16
a-17	329	89e							0.09				a-17
a-18	322								0.07				a-18
a-19	325								0.05				a-19
a-20									0.08				a-20
a-21									0.04				a-21
a-22									0.06				a-22
a-23									0.04				a-23
a-24									0.04				a-24
a'-1	342	88w						massive limey shale	0.06	2.445	0.20375	0.410577	a'-1
a'-2	345	88e						pic 24-28	0.04				a'-2
a'-3	340	88e						atop tully with fantastic	1.5				a'-3
a'-4								FID w/ hydrocarbon	0.135				a'-4
a'-5								bed dip 283/ .032m/1m	0.1				a'-5
a'-6								to 355/ .03m/1m	0.095				a'-6
a'-7									0.05				a'-7
a'-8									0.075				a'-8
a'-9									0.17				a'-9
a'-10									0.14				a'-10
a'-11									0.05				a'-11
a'-12									0.03				a'-12
b-1	79	89s	intersecting A's	.20m	.82m								b-1
c-1	25	51e	abutting A	.15m	2m				0.2				c-1
c-2	25	52e						curving <u>I</u> to A					c-2
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.	set / #
			site 38										
			7-25-2002-38				scanline						
a-1	330	83w		1.1+m	4+m		set 65		0	43.31	1.883043	1.411255	a-1
a-2									0.34				a-2

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a-3	327	70w							0.68					a-3
a-4								gas indicated	1.95					a-4
a-5	336	82w						gas indicated	2.2					a-5
a-6	329						twists	clockwise	2.52					a-6
a-7								gas indicated	2.65					a-7
a-8							reset 66	gas indicated	3.41					a-8
a-9	336	79e					start 66		0.33					a-9
a-10	335	58e							0.5					a-10
a-11	340								0.72					a-11
a-12	330	80e							1.49					a-12
a-13									1.75					a-13
a-14									1.92					a-14
a-15									2.02					a-15
a-16							reset 63		2.15					a-16
a-17	334	84e					start 63	twists counter clockwise	1.01					a-17
a-18									1.33					a-18
a-19	340								1.5					a-19
a-20	341	86e							1.61					a-20
a-21									2.35					a-21
a-22	328	88e							5.08					a-22
a-23	328	88w							5.8					a-23
b-1	58	44n							1	5	2.5	2.12132		b-1
b-2	58								4					b-2
b-3	54													b-3
			site 39											
			7/26/2002/39					FID trending E-W						
a-1	90		abutting B	.05m	.03m	.01m		total spacing a-1-6	ve.0066m					a-1
a-2	81	85s						.04m 6 fractures	1.5 fract					a-2
a-3	86							restricted to upper beds	per/ cm					a-3
a-4	86							doesn't pass through						a-4
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.		set / #
a-5	92							.18m sand below						a-5
a-6	90													a-6
a-7	81			.07m	.08m				0.11	1.46	0.0584	0.038737		a-7
a-8	95			.09m	.11m				0.08					a-8
a-9									0.15					a-9
a-10									0.08					a-10
a-11									0.08					a-11
a-12									0.07					a-12
a-13									0.05					a-13
a-14				.40+m	1.8+m				0.02					a-14
a-15									0.1					a-15
a-16									0.06					a-16
a-17									0.14					a-17
a-18									0.12					a-18

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a-19									0.05					a-19
a-20									0.11					a-20
a-21								total distance 1.3m	0.09					a-21
a-22	95								0.02					a-22
a-23	96		abutting B	.14m	.33m	.0012m			0.04					a-23
a-24	104								0.02					a-24
a-25	92								0.07					a-25
a'-1	331	88s			15+m		planer	composite length		3.99	1.33	1.067193		a'-1
a'-2	332	86s	hooks to A-1		4+m		planer		0.41					a'-2
a'-3	329	90	abutting B				wavy		1.08					a'-3
									2.5					
b-1	75	90				.05m	planer			6.47	2.156667	0.36		b-1
b-2	76	90					planer		0.47					b-2
b-3	88	65n					planer		0.83					b-3
b-4									1.19					b-4
b'-1	272	85n					wavy/planer			3.98	1.326667	0.232451		b'-1
b'-2	270	79n			.02m		wavy/planer		1.24					b'-2
b'-3	270	75n							1.15					b'-3
b'-4									1.59					b'-4
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.		set / #
b"-1	73		abutting B'-1	.02m	.20m	.02m	wiggly	sandstone	0.15	1.17	0.0975	0.038642		b"-1
b"-2	80				.30m				0.17					b"-2
b"-3	80								0.15					b"-3
b"-4	85								0.1					b"-4
b"-5	75								0.07					b"-5
b"-6	88								0.09					b"-6
b"-7	70								0.05					b"-7
b"-8	67								0.075					b"-8
b"-9	67								0.075					b"-9
b"-10	90		abutting B'-2						0.085					b"-10
b"-11									0.06					b"-11
b"-12									0.095					b"-12
c-1	4	62e	intersecting B											c-1
c-2	3	69e												c-2
c-3	11	65e	abutting A											c-3
site 40														
7/26/2002/40														
a-1	334	90	master				.015m	.01m shale		2.58	0.86	1.221352		a-1
a-2	335	88e	master						0.13					a-2
a-3	335	88w	master						0.18					a-3
a-4	334	86e	master						2.27					a-4

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a'-1	320	88w	1.5 fract. Per/ cm					fringe fractures					a'-1
a'-2	320	88w						these increase in size					a'-2
a'-3	322							as fractures go north					a'-3
a'-4	317							twists counterclockwise					a'-4
b-1	77	72n		.3m-3m	4+m	.01m				8.32	2.08	0.091652	b-1
b-2	79	87n							1.44				b-2
b-3	86	76n							1.56				b-3
b-4	90								1.62				b-4
c-1	28	77se											c-1
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.	set / #
c-2	27	67se	master to B	.5+m	5+m			only 2 C's	3.7				c-2
site 41													
7/26/2002/41													
a-1	334	88n	master to B							11.81	1.181	1.141411	a-1
a-2	327			.2+m	5+m		planer		1.29				a-2
a-3	329			.2+m	5+m		planer		3.9				a-3
a-4				.2+m	5+m		planer		0.39				a-4
a-5				.2+m	5+m		planer		1.51				a-5
a-6				.2+m	5+m		planer		0.18				a-6
a-7				.2+m	5+m		planer		1.39				a-7
a-8				.2+m	5+m		planer		0.17				a-8
a-9				.2+m	5+m		planer		1.19				a-9
a-10				.2+m	5+m		planer		1.79				a-10
b-1	75	87n	abutting A2				planer	.91m total		0.91	0.182	0.069065	b-1
b-2	80			.05m	.06m	.015m	wiggly	sandstone	0.13				b-2
b-3	78						wiggly		0.16				b-3
b-4	81						wiggly		0.25				b-4
b-5	80	88s					planer	curving <u>└</u> to A1 & A2	0.11				b-5
b-6									0.26				b-6
c-1	64		abutting B5		2+m		wiggly	to wavy					c-1
d-1	35		offsets A		2+m								d-1
d-2	35	83se	master to B						1.5				d-2
site 42													
7/26/2002/42													
a-1	330	85e					planer						a-1
b-1	77					.04-.06m		sandstone		2.95	0.7375	0.195	b-1
b-2	78						wiggly		0.54				b-2
b-3	71								0.9				b-3

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b-4	75								0.6				b-4
b-5	75	85s							0.91				b-5
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.	set / #
site 43													
08/6/2002/43													
a-1	341	88e		3+m	30+m	.15m		sandstone					a-1
a-1cmt	345	89e						max .66m					a-1cmt
a-2	342	82e	master to B (we think)						3.1				a-2
a-3	340	88e											a-3
b-1	185	90		5+m	4+m					6.6	3.3	1.583919	b-1
b-2	186	90							4.42				b-2
b-3	185	89e		1.3+m	.3+m				2.18				b-3
b'-1	343												b'-1
site 44													
08/6/2002/44													
a-1	337	90	master to B	1+m			1+m	shale & sandstone					a-1
a-2	336	88w			14.5+m				2.73				a-2
b-1	320	82e		.2+m	.8+m								b-1
site 45													
08/6/2002/45													
a-1	340	82e											a-1
a-2	335	84e							2				a-2
b-1	9	88w											b-1
site 46													
08/7/2002/46													
a-1	338	90	master to B	.8m	5+m		.45m	going west	0.37	7.77	1.554	1.427718	a-1
a-2	339	82w		.6m	5+m		.45m	sandstone	1.2				a-2
a-3	336	86e	abutting to B	.7m	2.5+m		.45m	this came later	0.76				a-3
a-4	333	90		.7m	4m			cap rock .45m	1.44				a-4
a-5	339	87w						3m amalgamated beds	4				a-5
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.	set / #
b-1	64	83s	abutting to A	.65m	1m+			through individual beds					b-1
currying perpendicular													very wavy currying perpendicular
b-2	88		abutting to A		1m+								b-2
b-3	86	70n	abutting to A		1m+								b-3
c-1	95	86s	abutting to A	.5m	8+m			parallel to stream	1	2.07	1.035	#DIV/0!	c-1
parallel to set A													currying parallel to set A

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c-2	84	68n	abutting to A	.10m	.96m			came later terminates in S	1.07					c-2
c-3	95	85s	abutting to A	1m	.5m									c-3
			site 46 A											
			08/7/2002/46 A											
	spacing on 340 trend below falls Wagner creek													
a-1			master	2+m					6					a-1
a-2	334			2+m					1.3	10.5	1.75	2.11731		a-2
a-3									1.3					a-3
a-4									1					a-4
a-5	336								0.5					a-5
a-6									0.4					a-6
			site 47											
			08/7/2002/47											
a-1	330	83e	master to B-1	2+m				in black shale		4.23	0.604286	0.436687		a-1
a-2	331	85e		.74+m				through sandstone	0.87					a-2
a-3	337	79e		.74+m				a-3-5 in shale only	0.12					a-3
a-4									0.12					a-4
a-5	334	82e						in sandstone	0.17					a-5
a-6								in sandstone	1.21					a-6
a-7								in sandstone	0.2					a-7
									0.64					
b-1	75	90	abutting A					in shale only		0.9	0.45	0.212132		b-1
b-2	76	87s	intersecting A					in shale only	0.3					b-2
b-3								in shale only	0.6					b-3
b-4	76	86s						in shale only						b-4
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.		set / #
			site 47 A											
			08/7/2002/47 A											
	beds dip .08m rise .14m run dip 28n													
a-1	346	63e			.2m	.33m	sandstone							a-1
b-1	90	84s												b-1
	2 stratagraphic columns taken across stream.													
			site 48											
			08/7/2002/48											
a-1	330	88w												a-1
b-1	85	80n					planer			0.99	0.495	0.049497		b-1
b-2	83	90	abutting A				wavy	curving <u>l</u> at A	0.53					b-2
b-3	87		abutting A				curvy		0.46					b-3
c-1	67	90												c-1

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			site 49										
			08/7/2002/49										
team crappy out crop													on side of stream crappy out crop
a-1	335	78e		.09m	.4m			silt and shale	2.5	8.8	2.2	1.525341	a-1
a-2	332	88w		.2m	1+m				4				a-2
a-3	335	90		.45m	.7+m				2				a-3
a-4	338	75w		.3m	.5+m				0.3				a-4
a-5	330			.3m	.2m								a-5
b-1	352		master to D					curving perpendicular					b-1
c-1	40	58e		.15m	.5m				0.4				c-1
c-2	36	74w		.15m	.5m								c-2
d-1	66		abutting B	.2m	.4m								d-1
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.	set / #
			site 50										
			08/7/2002/50										
a-1	75	86n		1+m	2+m								a-1
a-2	~70		master to B						1.22				a-2
b-1	357	90	abutting A	1+m	1.5+m			curving <u>⊥</u>					b-1
c-2	322	79sw					planer						c-2
			site 51										
			08/7/2002/51										
a-1	328	90	master to B	.30m	3.5m	.05m	sandstone		1.25	2.73	0.91	0.695414	a-1
a-2	323	86w	master to B	.10m	1m				1.37				a-2
a-3	336	87w		.35m	2.5m								a-3
a-4	332	87w	intersecting B1	.35m	2.5m				0.11				a-4
a-5	335	90	master to B-6										a-5
4 primary fractures													b-1 and b-4 primary fractures
b-1	77	83n	intersecting A-4					planer	1	2.35	0.783333	0.192959	b-1
b-2	79							curving parallel & wavy	0.63				b-2
b-3	91		abutting A					wiggly	0.72				b-3
b-4	77	83n	intersecting A-1										b-4
b-5	76	88n	master to C					planer					b-5
b-6	74												b-6
popup on B-4 set													N-S popup on B-4 set

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c-1	88	89s	abutting C					planer					c-1
			site 52										
			08/7/2002/52										
a-1	332	87w		.05+m	1.35+m		wavy			3	1	0.916515	a-1
a-2	330	90							2				a-2
a-3	333	88w							0.8				a-3
a-4	330	88w							0.2				a-4
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.	set / #
b-1	301	87sw	abutting A				wavy						b-1
	no big time set of e-w here except one at 91/												
			site 53										
			08/7/2002/53										
a-1	70	89n		.46+m	1+m		black shale	planer	0.75	2.31	0.462	0.185526	a-1
a-2	74	87n		.09m	.68+m				0.28				a-2
a-3	73	88n		.06m	1.3+m				0.46				a-3
a-4	70	89s	abutting B	.1+m	.90+m				0.5				a-4
a-5									0.32				a-5
a-6	78	88n											a-6
regionally planer locally wiggly curving perpendicular													
b-0	90	88s	abutting A-3						0.59				b-0
b-1	272	87n	abutting A-2										b-1
c-1	332	90	abutting A-6										c-1
c-2	332	90											c-2
planer locally wiggly													regionally planer locally wiggly
d-1	23	75w	abutting A										d-1
e-1	40												e-1
			site 54										
			08/7/2002/54										
a-1	338	87w		1.5m	6+m			black shale		7.495	0.624583	0.574187	a-1
a-2	336	88w		1.2m	4+m				0.49				a-2
a-3	337	90		.42m	2.2+m			interbedded sand & shale	2.1				a-3
a-4	339	88e		.25m	3+m				1				a-4
a-5	338	87e							0.045				a-5
a-6	336	85w							0.11				a-6
a-7	342	90							0.17				a-7
a-8	339	90							0.39				a-8
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.	set / #

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a-9									0.7					a-9
a-10									0.83					a-10
a-11									0.8					a-11
a-12									0.86					a-12
b-1	7	81e	abutting A					curving parallel						b-1
c-1	70	76s	abutting A-3						0.59	37.58	12.52667	18.22122		c-1
c-2	71	90	abutting A-3											c-2
c-4	71	88n							33.5					c-4
									3.49					
			site 55											
			08/7/2002/55											
Ds intersecting at 120 degrees														
a-1	317	89e	intersecting B&C	.10m	1.15m	.12m		black shale	0.59	4.425	0.192391	0.183768		a-1
a-2	322	86n	intersecting B&C					FID in shale only	0.135					a-2
a-3	321	87n	intersecting B&C						0.26					a-3
a-4	324	88s	abutting B						0.017					a-4
a-5			abutting B						0.022					a-5
a-6			intersecting B						0.024					a-6
a-7			intersecting B						0.043					a-7
a-8			abutting B						0.068					a-8
a-9			abutting B						0.084					a-9
a-10	326		abutting C						0.122					a-10
a-11	321	86w							0.38					a-11
a-12	326	87w							0.33					a-12
a-13	329	89w							0.18					a-13
a-14	326								0.18					a-14
a-15	325								0.17					a-15
a-16	327								0.19					a-16
a-17	323								0.08					a-17
a-18	320								0.2					a-18
a-19									0.07					a-19
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.		set / #
a-20									0.31					a-20
a-21									0.12					a-21
a-22									0.09					a-22
a-23	329								0.76					a-23
b-1							planer	FID in shale		16.53	0.423718	0.87651		b-1
b-2	10	89w							0.66					b-2
b-3	18	90							0.74					b-3
b-4	15	88e							0.06					b-4
b-5	13		master to A						0.07					b-5

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b-6									0.05					b-6
b-7			abutting A						0.41					b-7
b-8									0.35					b-8
b-9									0.13					b-9
b-10									0.13					b-10
b-11									0.02					b-11
b-12			abutting A						0.16					b-12
b-13			intersecting A						0.08					b-13
b-14			intersecting A						0.235					b-14
b-15									0.19					b-15
b-16									0.24					b-16
b-17									0.11					b-17
b-18									0.1					b-18
b-19									0.25					b-19
b-20									0.09					b-20
b-21									0.05					b-21
b-22									0.05					b-22
b-23									0.065					b-23
b-24									0.015					b-24
b-25									0.06					b-25
b-26						.01m		sandstone	0.5					b-26
b-27	10	90				.01m			0.27					b-27
b-28	13	88w				.01m			0.48					b-28
b-29				2.5+m	5+m	.01m			0.58					b-29
b-30						.01m			0.12					b-30
b-31						.01m			0.21					b-31
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.		set / #
b-32						.01m			0.67					b-32
b-33						.01m			0.3					b-33
b-34						.01m			0.35					b-34
b-35						.01m			0.38					b-35
b-36						.01m			0.1					b-36
b-37						.01m			3					b-37
b-38						.01m			0.45					b-38
b-39						.01m			4.8					b-39
c-1	74	90	intersecting A-1	10+m	20+m	.3m			0.53	4.657	0.245105	0.272839		c-1
c-2	76	88s	abutting A-2	5+m	4m				0.72					c-2
c-3	72	88s		.07m	.5m			curving parallel to A-1	0.51					c-3
c-4	71	86s	intersecting A	4+m	7+m				0.7					c-4
c-5	76	87n	intersecting B						0.21					c-5
c-6									0.05					c-6
c-7									0.018					c-7
c-8									0.03					c-8
c-9									0.09					c-9
c-10									0.011					c-10
c-11									0.045					c-11

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c-12									0.02					c-12
c-13									0.043					c-13
c-14									0.046					c-14
c-15									0.084					c-15
c-16									0.08					c-16
c-17	70	88s							0.22					c-17
c-18	78	87n							0.74					c-18
c-19									0.51					c-19
d-1	348	89e	intersects C, A-4&10	1.05m	5+m									d-1
			master to all others											
			site 56											
			08/7/2002/56											
			not done well, last site of the day											
a-1	335	90			3m			mostly silt	0.94	5.94	0.312632	0.383432		a-1
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.		set / #
a-2	335	89w							0.05					a-2
a-3	335	88w							0.07					a-3
a-4	329	84e							0.03					a-4
a-5	329	86e							0.18					a-5
a-6	330	88e							0.1					a-6
a-7									0.08					a-7
a-8									0.17					a-8
a-9									0.09					a-9
a-10									0.48					a-10
a-11									1.42					a-11
a-12									0.16					a-12
a-13									0.13					a-13
a-14									0.52					a-14
a-15									0.09					a-15
a-16									0.05					a-16
a-17									0.05					a-17
a-18									0.85					a-18
a-19									0.48					a-19
b-1	71	86s							4	15.54	3.108	1.221421		b-1
b-2														b-2
b-3									4					b-3
b-4	76	88s												b-4
b-5									1.77					b-5
b-6									1.77					b-6
b-7									4					b-7
c-1	350	55e												c-1
			site 57											

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			08/8/2002/57											
a-1	333	85e	master to B	4m	6m	.35m	sandstone		1					a-1
a-2	340	90		1m	2m									a-2
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.		set / #
b-1	87					.35m	sandstone		4					b-1
b-2	79	87s	master to A	1+m	1+m									b-2
			site 57 A											
			08/8/2002/57 A											
a-1	295	90	master to B	1+m	9m	.12m	black shale		1.05	2.2	1.1	0.070711		a-1
twist	300							clockwise 5/						twist
a-2	292	88n		.5m	4m	.12m			1.15					a-2
a-3	296	87n		1.5m	6m	.12m								a-3
b-1	24	71e	abutting A	.12m	.75m	.12m	black shale		0.67					b-1
b-2	30	81w	abutting A	.12m	1.3m	.12m								b-2
c-1	87		abutting A		.30+m		black shale		0.025	0.288	0.0288	0.013855		c-1
c-2	88		abutting A						0.025					c-2
c-3	91		abutting A						0.022					c-3
c-4	81		abutting A						0.023					c-4
c-5	85		abutting A						0.022					c-5
c-6	89		abutting A						0.02					c-6
c-7	88		abutting A						0.02					c-7
c-8	84		abutting A						0.027					c-8
c-9	88		abutting A						0.039					c-9
c-10	82		abutting A						0.065					c-10
			site 58											
			08/8/2002/58											
e and black shale, Ss 5-6 cm, sh 2-12 cm. Fractures in all black shale B-set incipet in sandstone														
a-1	85	90		.01m	.30m		planer		0.065	0.963	0.056647	0.01895		a-1
a-2	80	90		.01m	.30m				0.065					a-2
a-3	80	90		.01m	.30m				0.035					a-3
a-4	84	90		.01m	.30m				0.075					a-4
a-5	84	90							0.06					a-5
a-6									0.055					a-6
a-7									0.07					a-7
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.		set / #
a-8	84				.40m	.045m	sandstone		0.07					a-8
a-9	88	77s							0.054					a-9
a-10	89								0.034					a-10
a-11	89								0.075					a-11

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a-12	89								0.08					a-12
a-13	86								0.055					a-13
a-14	84								0.045					a-14
a-15									0.08					a-15
a-16									0.025					a-16
a-17									0.02					a-17
b-1	74								0.025	0.202	0.0202	0.00319		b-1
b-2	71								0.015					b-2
b-3	74								0.02					b-3
b-4	90								0.018					b-4
b-5	80								0.02					b-5
b-6	94								0.017					b-6
b-7	79								0.022					b-7
b-8	95								0.02					b-8
b-9	81								0.025					b-9
b-10	89								0.02					b-10
c-1	337	82w	abutting some A's				ragged							c-1
twist	343													twist
			site 59											
			08/8/2002/59											
p 94/	.017m/1m													beds dip 94/ .017m/1m
a-1	227	85s	master to B											a-1
a-2	275								6.72					a-2
b-1	78		abutting A				wavy	curving <u>┘</u> to A		2.48	0.496	0.170382		b-1
b-2	77		abutting A					curving <u>┘</u> to A	0.68					b-2
b-3	82	86n							0.55					b-3
b-4									0.55					b-4
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.		set / #
b-5									0.22					b-5
b-6									0.48					b-6
c-1	358		abutting B-1											c-1
			site 59 A											
			08/8/2002/59 A											
a-1	332	87e		.75m	10+m	.15m	sandstone		5.2					a-1
a-2	334	85n		.9m	10+m									a-2
b-1	74	88s		.3m	3+m	.02m	sandstone		0.67	3.86	0.4825	0.152947		b-1
b-2	75	88n							0.42					b-2
b-3	73		master to C						0.65					b-3

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b-4	75								0.43				b-4
b-5	79								0.25				b-5
b-6	76								0.35				b-6
b-7	73								0.46				b-7
b-8	72								0.63				b-8
c-1	300	90	abutting B	1m	3m	.08m				1.2	0.6	0.565685	c-1
c-2	276								1				c-2
c-3	277								0.2				c-3
c-4	279												c-4
d-1	89		abutting A	.20m	.30m	.04m	shale		0.04	0.355	0.059167	0.014972	d-1
d-2	87								0.08				d-2
d-3	81								0.05				d-3
d-4	88								0.065				d-4
d-5	90								0.07				d-5
d-6	85								0.05				d-6
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.	set / #
site 60													
08/8/2002/60													
a-1	77	88s		5.5m	.1m	.015m		blackshale	0.135	0.388	0.055429	0.043737	a-1
a-2	93				.07m				0.025				a-2
a-3	94				.06m				0.028				a-3
a-4	96				.05m				0.035				a-4
a-5	88				.046m				0.1				a-5
a-6	77				.035m				0.035				a-6
a-7					.050m				0.03				a-7
a'-1	342	90											a'-1
b-1	80	85s	abutting A	.2+m	2.5+m	.085m	planer/wavy	sandstone	1.15	3.61	0.601667	0.384157	b-1
b-2	80		abutting A						0.71				b-2
b-3	75		abutting A						0.2				b-3
b-4			abutting A						0.22				b-4
b-5			abutting A						0.43				b-5
b-6			abutting A						0.9				b-6
site 61													
08/8/2002/61													
waterfalls 14 m mostly shale 1st site after lunch													
a-1	73	90	master	1.5+m	6+m			black shale	1.25	13.26	0.82875	0.702442	a-1
a-2	73	88n	master	1+m	6+m				0.69				a-2

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a-3	74	89n	master	1.5+m	8+m				0.52					a-3
a-4	71	89n	master	1.5+m	6+m				0.73					a-4
a-5	77	82n	master	1m	6+m				0.91					a-5
a-6	73	85n	master	1m	6+m				0.41					a-6
a-7	70	87n	master	.5m					0.46					a-7
a-8	73	88n	master	.4m					1.12					a-8
a-9	72	84n	master	.4m					1.12					a-9
a-10			master						1.08					a-10
a-11			master						0.65					a-11
a-12			master						0.57					a-12
a-13			master						0.07					a-13
a-14			master						0.03					a-14
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.		set / #
a-15			master						3.1					a-15
a-16			master						0.55					a-16
b-1	338	90	abutting A							4.32	1.44	0.764461		b-1
b-2	333	90							0.56					b-2
b-3	342	85e	intersecting A						1.94					b-3
b-4									1.82					b-4
site 62														
08/8/2002/62														
a-1	75	90		.3+m	6+m		planer			5.65	1.883333	1.532068		a-1
a-2	75	85s							3.65					a-2
a-3	78	86s							0.92					a-3
a-4									1.08					a-4
b-1	20	79e	abutting a-1				planer			4.98	1.66	1.61		b-1
b-2	10	65e	abutting a-3				wavy		0.97					b-2
b-3	12		abutting a-3				wavy		0.51					b-3
									3.5					
c-1	315	80e	abutting b											c-1
c-2	320	87e	abutting b				planer							c-2
c-3	335	80e	abutting a-3 & B				wavy							c-3
			intersecting A-4											
site 63														
08/8/2002/63														
a-1	73	86n	master to B	.5+m	16+m	.01m		black shale						a-1
b-1	344	85e	intersecting A	.2m	2+m				0.16	11.44	0.762667	1.113973		b-1
b-2	344	88w	abutting A	.17m	2m				1.95					b-2
b-3	339	88e	abutting A	.15m	1.2m				0.09					b-3
b-4	339	87w	intersecting A	.2m	2+m				0.07					b-4

Seneca ands Cayuga Data 2002

b-5	341	82e	abutting A	.15m	2+m				0.23					b-5
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.		set / #
b-6				.16m	2+m				0.21					b-6
b-7									1.54					b-7
b-8									0.16					b-8
b-9									0.2					b-9
b-10									0.55					b-10
b-11									0.18					b-11
b-12									0.73					b-12
b-13	341	86w	abutting A						0.07					b-13
b-14	341	84w	abutting A						1.1					b-14
									4.2					
			site 64											
			08/8/2002/64											
a-1	71	88s							1.7					a-1
a-2	72	81s												a-2
b-1	12	83w							1.4	3.32	1.106667	0.280951		b-1
b-2	14	90							0.84					b-2
b-3	12	75e							1.08					b-3
twist	351							21/ twist						twist
c-1	60								0.053	0.348	0.0435	0.026148		c-1
c-2	61								0.098					c-2
c-3	62	89s							0.04					c-3
c-4	60								0.031					c-4
c-5	63								0.017					c-5
c-6	65								0.044					c-6
c-7	60								0.05					c-7
c-8	61								0.015					c-8
			site 65											
			08/8/2002/65											
a-1	0	90	master to B-1 & 2				curvy	a 1-3 s.5m spacing total						a-1
a-2	352	62e	master to B-1				planer							a-2
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.		set / #
a-3	0	85e					curvy							a-3
b-1	74	89s		10m	4m			black shale	0.66	4.56	1.52	0.785621		b-1
b-2	74	90		.05m	2m				2.2					b-2
b-3	76	87n							1.7					b-3
b-4	75	88s												b-4
c-1	285	85s	abutting A & B						0.98					c-1

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c-2	292												c-2
			site 66										
			08/8/2002/66										
a-1	74	90		.8+m	1.15+m		planer			4.32	0.72	0.389667	a-1
a-2	74	88n		.8+m			planer		0.2				a-2
a-3	74	86s							0.8				a-3
a-4	74	83s							0.4				a-4
a-5									0.86				a-5
a-6							planer		0.74				a-6
a-7									1.32				a-7
b-1			abutting A-2&3				curvy						b-1
b-2			abutting A-3&4				curvy						b-2
twist							curvy	counterclockwise					twist
			site 67										
			08/8/2002/67										
a-1	354	74e	master to B		6.5+m								a-1
a-2	355	89w											a-2
b-1	344	86e	abutting A		3+m								b-1
b-2	349	76e							0.73				b-2
			intersecting & abutting A+B										
c-1	71	88s											c-1
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.	set / #
			site 67 A										
			08/8/2002/67 A										
a-1	350	55e							0.18	1.44	0.48	0.264575	a-1
a-2									0.58				a-2
a-3									0.68				a-3
			site 67 B										
			08/8/2002/67 B										
a-1	74		master						1.54	4.24	2.12	0.820244	a-1
a-2									2.7				a-2
b-1	0								0.47	2.58	0.86	0.345977	b-1
b-2	358								1.13				b-2
b-3	350								0.98				b-3
b-4	345												b-4
			site 68										
			08/8/2002/68										
a-1	334	89w		.2+m	2.6+m	.055m		sandstone					a-1

Seneca ands Cayuga Data 2002

a-2	336	88e												a-2
b-1	91	82n							0.24	49.12	5.457778	3.280738		b-1
b-2	89	89s							0.38					b-2
b-3					.04m		sandstone		3.7					b-3
b-4									8.4					b-4
b-5									8.5					b-5
b-6									7.3					b-6
b-7									8.2					b-7
b-8									6.4					b-8
b-9									6					b-9
			site 69											
			08/9/2002/69											
a-1	334	89w	master to b	.65+m	.14+m	.53m	planer		0.08	5.205	1.041	1.198386		a-1
twists	331							clockwise 3 degrees						twists
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.		set / #
a-2	332	86w		2+m	.14+m		planer		1.71					a-2
a-3	332	89w		2+m	.14+m		planer		0.26					a-3
a-4	332	89e		2+m	.14+m		planer		0.315					a-4
a-5	332	89e		2+m	8+m	.33m	planer		2.84					a-5
a-6	333	85w												a-6
b-1	83	72s	abutting everything		.2+m			regionally planer	1.34	4.61	1.1525	0.581457		b-1
b-2	82	71s						locally wiggly	0.82					b-2
b-3	82	73s							0.57					b-3
b-4	81	74s							1.88					b-4
b-5	85	86s												b-5
			site 70											
			08/9/2002/70											
a-1	354		master 10 B			.06m		sandstone	3.6	6.59	1.6475	1.342867		a-1
a-2	345	79w							1.24					a-2
a-3	350	74w							0.53					a-3
a-4	347								1.22					a-4
b-1	85	85s	abutting A				planer		0.1	1.17	0.195	0.070071		b-1
b-2	85						wavy		0.23					b-2
b-3	84	85n					planer		0.24					b-3
b-4									0.11					b-4
b-5									0.25					b-5
b-6									0.24					b-6
			site 71											
			08/9/2002/71											
a-1	344	75e		3.5+m	7.6+m		planer	locally ragged		8.23	2.743333	0.731118		a-1
a-2	349	89w							2.89					a-2

Seneca ands Cayuga Data 2002

a-3	358								1.95				a-3
a-4	348	89e							3.39				a-4
b-1	83					.10m		massive	0.03	1.4	0.073684	0.023205	b-1
b-2	87								0.095				b-2
set / #	strike	dip	master / abutting	height	length	thickness	character	other	spacing	total	Ave.	std. dev.	set / #
b-3	88								0.06				b-3
b-4	82								0.05				b-4
b-5	90	88n							0.09				b-5
b-6	80	89s							0.065				b-6
b-7									0.065				b-7
b-8									0.08				b-8
b-9									0.1				b-9
b-10									0.08				b-10
b-11									0.05				b-11
b-12									0.11				b-12
b-13									0.12				b-13
b-14									0.085				b-14
b-15									0.07				b-15
b-16									0.045				b-16
b-17									0.055				b-17
b-18									0.07				b-18
b-19									0.08				b-19
190/ .025m/1m													

Appendix 3.1-3

Skaneateles Site Log 2002

Skaneateles Site Log 2002

site #	Date Measured	TOPO quad	map #	location	book #	pages	recorder	lake	site #
				Skaneateles Lake Area					
72	8/12/1998	Spafford	3	Bear Swamp Creek 1/2 way to lower falls	1	109/10	R D Jacobi	Skaneateles	72
73	8/12/1998	Spafford	3	Bear Swamp Creek at base of lower falls	1&2	1-111/126/72-72/3	R D Jacobi & J Stroup	Skaneateles	73
74	8/12/1998	Spafford	3	Bear Swamp Creek at head delta by parking (Carpenter Point)	2	74	J Stroup	Skaneateles	74
74-A	8/13/1998	Spafford	3	Bear Swamp Creek at head delta by parking (Carpenter Point)	1	111/12	R D Jacobi	Skaneateles	74-A
75	8/13/1998	Spafford	3	Bear Swamp Creek moving up stream from Carpenter Point	1	113	R D Jacobi	Skaneateles	75
76	8/13/1998	Spafford	3	Bear Swamp Creek moving up stream from Carpenter Point	1	114	R D Jacobi	Skaneateles	76
77	8/13/1998	Spafford	3	Bear Swamp Creek moving up stream from Carpenter Point	1	115/16	R D Jacobi	Skaneateles	77
78	8/13/1998	Spafford	3	Bear Swamp Creek moving up stream from Carpenter Point	1	117->121	R D Jacobi	Skaneateles	78
79	8/13/1998	Spafford	3	Bear Swamp Creek moving up stream from Carpenter Point	2	75	J Stroup	Skaneateles	79
80	8/13/1998	Spafford	3	Bear Swamp Creek moving up stream from Carpenter Point	1	122	R D Jacobi	Skaneateles	80
81	8/13/1998	Spafford	3	Bear Swamp Creek moving up stream from Carpenter Point	2	77	J Stroup	Skaneateles	81
82	8/13/1998	Spafford	3	Bear Swamp Creek moving up stream from Carpenter Point	1	123/4	R D Jacobi	Skaneateles	82
83	8/13/1998	Spafford	3	Bear Swamp Creek moving up stream from Carpenter Point	2	78	P Stokes	Skaneateles	83
84	8/13/1998	Spafford	3	Bear Swamp Creek moving up stream from Carpenter Point	1	128	R D Jacobi	Skaneateles	84
85	8/13/1998	Spafford	3	Bear Swamp Creek moving up stream from Carpenter Point	1	129	R D Jacobi	Skaneateles	85
86	8/13/1998	Spafford	3	Bear Swamp Creek at Carpenter Falls (upper falls) below falls	1	130/1	R D Jacobi	Skaneateles	86
87	8/13/1998	Spafford	3	Bear Swamp Creek at Carpenter Falls (upper falls) above falls Tully LS	1	131/2	R D Jacobi	Skaneateles	87
88	8/14/1998	Marcellus	7	creek at Five Mile Point N fork .5 km upstream, main creek	1	133/4	R D Jacobi	Skaneateles	88
89	8/14/1998	Marcellus	7	creek at Five Mile Point S fork .5 km upstream, smaller tributary	1	135	R D Jacobi	Skaneateles	89
90	8/14/1998	Marcellus	7	creek at Five Mile Point down stream 50m from 89	1	136/7	R D Jacobi	Skaneateles	90
91	8/14/1998	Marcellus	7	creek at Five Mile Point between 89 and 90	1	137/8	R D Jacobi	Skaneateles	91
92	8/14/1998	Marcellus	7	creek at Five Mile Point 200 m down stream from 89	1	138/9	R D Jacobi	Skaneateles	92
93	8/14/1998	Marcellus	7	Willow Dale at Ladder Point Otisco lake, pool at turn to the south	1	140	R D Jacobi	Otisco	93
94	8/14/1998	Marcellus	7	Willow Dale at Ladder Point Otisco lake 50m downstream from 93	1	141-.3	R D Jacobi	Otisco	94
94-A	8/14/1998	Marcellus	7	Willow Dale at Ladder Point Otisco lake 100 m downstream from 94	1	143	R D Jacobi	Otisco	94-A

Appendix 3.1-4
Skaneateles Data 2002

Skaneateles Data 2002

Skaneateles Lake Area												
set	strike	dip	m / ab / int	height	length	thick	character	other	spacing	total	ave.	S.D.
			site 72									
			08/13/2002/72									
a-1	294	84n		.2+m	1.2+m		planer					
a-2	293	77s		.2+m	1.2+m		wavy		0.640	16.580	1.105	0.822
a-3	298	76s			1.7+m		horse-tail		0.190			
a-4	306	86s					planer	then hooks	1.450			
a-5	303	89s					curvy		0.300			
a-6	296	84n	int B-2	1+m	4.5+m				0.350			
a-7	298	88n		.5+m	8+m				2.200			
a-8									1.260			
a-9			int C-1						2.140			
a-10								ends before A-9 & 11	0.490			
a-11								ends before A-9 & 11	0.900			
a-12	299	81n							1.060			
a-13									2.060			
a-14									2.760			
a-15								in water	0.780			
b-1	345	85w		.3+m	.75+m							
b-2	344	89e	int A-6	.6+m	7+m				2.240	14.980	4.993	7.425
b-3	19	89w	ab A-9 & D-1						12.740			
b-4	343	87sw	int A									
c-1	60	90	ab A-12							4.920	1.230	1.113
c-2	80	47s	ab A	.2+m	2m		planer		2.850			
	67						curvy					
c-3	70	42s	ab A				curvy		0.320			
set	strike	dip	m / ab / int	height	length	thick	character	other	spacing	total	ave.	S.D.
	66						curvy					
c-4			ab D !				planer		0.940			
c-5	74	38sw							0.810			
								no more	5+			
d-1	309	74ne						curving parrallel to A-12	2.580			
d-2	305	83sw						curving parrallel to A-13				
			site 73									
			08/13/2002/73									
a-1	2	88e		6+m	13+m							

Skaneateles Data 2002

a-2	0	88w		6+m	13+m							
carbonate rich medium grey shale fossiliferous (winged spirifers)												
a'-1	346	88e							6.580	15.630	1.737	2.302
a'-2	346	88e							0.400			
a'-3									0.440			
a'-4	345	88e							0.520			
a'-5	347	88e							1.830			
a'-6	346	88e		12+m	22+m				3.990			
a'-7	344	88w							1.870			
a'-8	343	87w	int A-2				planer					
b-1	310	81e							0.950			
b-2	300	87sw										
b'-1	314	57e							0.340	1.480	0.370	0.170
b'-2	315	61e							0.410			
set	strike	dip	m / ab / int	height	length	thick	character	other	spacing	total	ave.	S.D.
b'-3	316	56e							0.160			
b'-4	315	75e							0.570			
b'-5	314	66e										
c-1	335	34e						curving parrallel to b-1	0.610	1.320	0.440	0.151
c-2	331	54e							0.390			
c-3	335	50e							0.320			
			site 74									
			08/14/2002/74									
			limey shale, north side of creek									
a-1	349	88e	m to C	1.5m	4m	.25m			1.400	9.640	3.213	1.115
a-2	346				1.5m				2.040			
a-3	351	88e		3+m	2.5+m				2.200			
a-4	347	81e	int B						4.000			
a'-1	344	87e	int A3	.6m	2+m	.25m						
b-1	300	80ne		2+m	3+m				3.420	6.070	3.035	0.544
b-2	295	88sw		3+m	5+m	.25m	shale	limey	2.650			
b-3	300	85sw										
			site 74 A									

Skaneateles Data 2002

			08/14/2002/74 A					6m cliff				
a-0	300	79e		6+m	.2+m		planer	extreamly fractured		2.700	1.350	0.438
a-1	305	76e		6+m	.2+m		planer	limey shale + lenses of	1.660			
a-2	305	79e		6+m	.2+m		planer	sandstone/shale layers	1.040			
set	strike	dip	m / ab / int	height	length	thick	character	other	spacing	total	ave.	S.D.
			site 75									
			08/14/2002/75									
moving upstream to downstream. We finnished where Dr. Jacobi started												
a-1	306	89n	m to n-s set						0.550	13.270	1.206	1.380
a-2	306	88e							0.150			
a-3	302								2.500			
a-4	308	45ne							0.200			
a-5	315	78sw							0.430			
a-6	318	50s							0.150			
a-7	291	65n							0.950			
a-8	317								4.200			
a-9	314	55n							2.910			
a-10	308	88n							1.100			
a-11	303								0.130			
b-1	349	88w		.2+m	1+m		planer			19.600	2.800	2.738
b-2	346	82w		.2+m	1+m		planer		0.340			
b-3	348	88e	int A				planer		2.430			
b-4	340		ab 80				curvy/rag		3.900			
b-6	350	75sw	int A				planer		0.470			
b-7	342	88e					planer		5.130			
b-8	345		int A				planer		7.330			
b-5	0	55w	ab A						5.000			
set	strike	dip	m / ab / int	height	length	thick	character	other	spacing	total	ave.	S.D.
			site 76									
			08/14/2002/76									
a-1	348	87w					planer	limey bent up stuff w/		2.311	0.210	0.254
a-2	342	89w					planer	critters	0.870			
a-3	342	87e	int B				planer		0.049			
a-4									0.104			

Skaneateles Data 2002

a-5									0.014			
a-6									0.098			
a-7									0.064			
a-8									0.270			
a-9									0.150			
a-10									0.075			
a-11									0.142			
a-12									0.475			
b-1	299	68n								1.530	0.765	0.559
b-2	301	75n							1.160			
b-3	300	87n							0.370			
			site 77									
			08/14/2002/77									
a-1	302	83e		1.5+m	5+m		planer	still in limey shale		11.210	0.387	0.413
a-2	304	83e							0.330			
a-3	290	85e							2.000			
a-4	929								0.740			
a-5									1.040			
a-6									0.880			
a-7									0.550			
a-8									0.490			
set	strike	dip	m / ab / int	height	length	thick	character	other	spacing	total	ave.	S.D.
a-9									0.210			
a-10									0.440			
a-11									0.140			
a-12									0.170			
a-13									0.930			
a-14									0.350			
a-15									0.160			
a-16									0.220			
a-17									0.035			
a-18									0.110			
a-19									0.320			
a-20	298								0.180			
a-21									0.020			
a-22									0.055			
a-23									0.350			
a-24									0.260			
a-25									0.100			
a-26									0.160			

Skaneateles Data 2002

a-27									0.130			
a-28									0.340			
a-29									0.060			
a-30									0.440			
b-1	348	90	int A-8						4+	4.620	0.924	1.661
b-2	344	87w							0.840			
b-3	346	90	int A						0.050			
b-4									3.590			
b-5									0.140			
set	strike	dip	m / ab / int	height	length	thick	character	other	spacing	total	ave.	S.D.
c-1	256	84s	m to B					shortest set 5m total		2.360	0.295	0.145
c-2	257		& late As						0.470			
c-3	255	87s							0.280			
c-4									0.090			
c-5									0.380			
c-6									0.170			
c-7									0.160			
c-8									0.470			
c-9									0.340			
c-10									3+			
			site 78									
			08/14/2002/78									
0-1	60	88s						medum grey bumpy fractured limey shale				
a-1									0.180	2.458	0.129	0.120
a-2	75	81s							0.100			
a-3	78	88s							0.310			
a-4	79	87s							0.104			
a-5	75	85s		.1+m	4+m		planer		0.040			
a-6	84								0.095			
a-7			ab "0"						0.035			
a-8									0.038			
a-9									0.038			
a-10									0.053			
a-11									0.025			
a-12									0.090			
a-13									0.070			
a-14									0.060			
set	strike	dip	m / ab / int	height	length	thick	character	other	spacing	total	ave.	S.D.

Skaneateles Data 2002

a-15									0.090			
a-16									0.120			
a-17									0.430			
a-18									0.380			
a-19									0.200			
b-1	286	33n	int Cs					# 5,9,14,16,17,19,	9.500	17.990	1.799	2.976
b-2	310	50n						shallow dips	0.190			
b-3	305	73n						could be stress relieve	0.090			
b-4	304	30n						from waterfall	0.380			
b-5									0.140			
b-6									0.140			
b-7									1.050			
b-8									2.270			
b-9	282	26s	ab B-1					curving perpendicular to C				
b-10	304	31ne							0.330			
b-11	305	32ne							3.900			
b'-1	302	84n	ab C				planer to	curving perpendicular to C		4.613	0.577	0.829
b'-2	306	76n	ab C				slightly		2.490			
b'-3	304		int C				wavy		0.900			
b'-4	303								0.080			
b'-5									0.335			
b'-6									0.570			
b'-7									0.055			
b'-8									0.080			
b'-9									0.103			
set	strike	dip	m / ab / int	height	length	thick	character	other	spacing	total	ave.	S.D.
c-1									0.360	7.737	0.287	0.247
c-2									0.440			
c-3	341	88e							0.100			
c-4	344	82e							0.200			
c-5	342								0.070			
c-6	342	83e							0.250			
c-7									0.022			
c-8									0.100			
c-9									0.110			
c-10									0.380			
c-11									0.020			
c-12									0.145			

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c-13									0.620			
c-14									0.300			
c-15									0.250			
c-16									0.380			
c-17									0.120			
c-18									0.040			
c-19									0.180			
c-21									0.650			
c-22									0.080			
c-23									1.040			
c-24									0.310			
c-25									0.570			
c-26									0.360			
c-27									0.640			
			checked compasses all 3 exactly the same									
set	strike	dip	m / ab / int	height	length	thick	character	other	spacing	total	ave.	S.D.
			site 79									
			08/14/2002/79									
			homogenous grey shale, Dr. Jacobi (B) phil (A)									
a-1	54	90	int B-2	.3m	1+m		grey shale	homogenous	1.000	3.000	1.500	0.707
a-2	57	87n		.6m	5m				2.000			
a-3	59	87n										
fring	79	90										
b-1	348	89e	int A						1.190	0.490	0.163	1.375
b-2	346	79w	ab A						0.090			
b-3	344	90	int A						0.070			
b-4	345	89w	ab A						0.330			
b-5	354	89w							3.320			
b-6	332	80w										
			site 80									
			08/14/2002/80									
a-1	349	88e		6+m	2+m					1.950	0.390	0.230
a-2	349	79w							0.700			
a-3									0.100			
a-4									0.250			
a-5									0.400			
a-6									0.500			

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set	strike	dip	m / ab / int	height	length	thick	character	other	spacing	total	ave.	S.D.
site 81												
08/14/2002/81												
									2.000			
a-1	345	89w							0.530	12.130	1.348	0.758
a-2	346	90							1.100			
a-3	343							hooking to A-2	0.570			
a-4	347	77w					planer		1.300			
a-5	350								0.430			
a-6	351	90							2.600			
a-7									1.700			
									1.900			
b-1	315	62e	int A-7						1.250			
b-2	315											
site 82												
08/14/2002/82												
a-1	346	84e								10.670	1.067	1.155
a-2	345	83w							0.630			
a-3	350								1.250			
a-4	349	86w							4.100			
a-5	348	90							0.670			
a-6									1.780			
a-7									0.420			
a-8									0.490			
a-9									0.420			
a-10									0.420			
a-11									0.490			
set	strike	dip	m / ab / int	height	length	thick	character	other	spacing	total	ave.	S.D.
b-1	320	86w								1.680	0.560	0.125
b-2	323								0.680			
b-3									0.430			
b-4									0.570			
site 83												

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			08/14/2002/83									
a-1	335		m to B	.1+m	.1+m		shale	limey	0.550			
a-2	349	89e		.1+m	.1+m				6.900			
a-3	349	87e		.1+m	.1+m				0.380	13.670	1.367	2.058
a-4	349			.1+m	.1+m				0.530			
a-5	344			.1+m	.1+m				0.590			
a-6	344			6+m	6+m				0.630			
a-7	343	89w		6+m	6+m				2.420			
a-8				6+m	6+m				0.220			
a-9				6+m	6+m				0.100			
a-10				6+m	6+m				1.350			
b-1	311	89w	ab A	6m	6+m				1.890	9.590	4.795	4.108
b-2	307		ab A	6m	6+m				7.700			
b-3	312	86w		6m	6+m							
c-1	88	36n		.2m				curvy		4.170	0.521	0.349
c-2	89	25n		.5m	4.5m				0.700			
c-3	91	36n						curvy	0.800			
c-4	85	26n							0.300			
c-5									0.290			
set	strike	dip	m / ab / int	height	length	thick	character	other	spacing	total	ave.	S.D.
c-6									0.300			
c-7									0.400			
c-8									0.180			
c-9									1.200			
			site 84									
			08/14/2002/84									
a-1	342	88w						stream folows these				
a-2	344	88w										
b-1	79	36n										
			site 85									
			08/14/2002/85									
a-1												
b-0				10+	.51+				0.100	10.010	0.477	0.565
b-1	347	89w							0.075			

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b-2									0.110			
b-3									0.700			
b-4	337	89w							0.360			
b-5									0.115			
b-6									0.500			
b-7	352								0.720			
b-8									0.210			
b-9									0.050			
b-10									0.720			
b-11									0.210			
b-12									0.050			
set	strike	dip	m / ab / int	height	length	thick	character	other	spacing	total	ave.	S.D.
b-13									1.990			
b-14									0.340			
b-15									1.600			
b-16									0.460			
b-17	345								0.060			
b-18									0.070			
b-19									0.070			
b-20									1.500			
			site 86									
			08/14/2002/86									
a-1	75	83n	m to B							7.150	2.383	2.199
a-2	74	84s							1.420			
a-3	74	84s							0.830			
									4.900			
a-1'	80		ab B						0.360	2.210	0.442	0.202
twist	82								0.800			
a-2'	77								0.310			
a-3'	78	89s							0.360			
a-4'	77								0.380			
b-1	343	88w		.3+	5+					3.055	0.764	0.848
b-2	344	85w							0.250			
b-3	343	84e							0.025			
b-4	343	90							0.860			
b-5	347	89w							1.920			
c-1	80	38n						shallow dip guys				
set	strike	dip	m / ab / int	height	length	thick	character	other	spacing	total	ave.	S.D.

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			site 87									
			08/14/2002/87									
a-1	282									2.120	1.060	0.000
a-2	280								1.060			
a-3	275								1.060			
b-1	350											
c-2	24	73w										
			site 88									
			08/15/2002/88									
a-1	6	89e	m to all	2+	56+					2.250	0.750	0.877
a-2	9	88e							0.390			
a-3	4	90							1.750			
a-4	16	88w							0.110			
b-1	346	89w	ab to A					curving perpendicular				
b-2	344	88e	ab to A					curving perpendicular	2.300			
b'-3	310	84ne										
b'-4	306								0.100			
c-1	330											
d-1	60											
set	strike	dip	m / ab / int	height	length	thick	character	other	spacing	total	ave.	S.D.
			site 89									
			08/15/2002/89									
a-1	74	86s			1+							
a-2	74	90							0.190	2.135	0.305	0.563
a-3	74	90							0.180			
a-4									0.085			
a-5									0.050			
a-6									0.130			
a-7	74	77n		3+	6+				1.500			
b-1	340	86w										
b-2	336	90							1.360			

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c-1	3	88w										
c-2	4	88w	ab A						1.080			
			site 90									
			08/15/2002/90									
a-1	63	85s					planer					
a-2	60	90							1.850			
a'-1	71	90			15				0.020	0.230	0.029	0.016
a-2'	76				5.5				0.018			
a-3'	73				12.8				0.025			
a-4'	77				15				0.060			
a'-5									0.010			
a'-6									0.046			
a'-7									0.026			
a'-8									0.025			
set	strike	dip	m / ab / int	height	length	thick	character	other	spacing	total	ave.	S.D.
b-1	343	90								5.560	1.853	1.460
b-2	341	89w							0.500			
b-3	342	84e							1.660			
b-4									3.400			
			site 91									
			08/15/2002/91									
a-1	Jan-00	86w										
a-2	4	90							2.800			
b-1	340	86e							0.270	1.455	0.243	0.130
b-2	342	83e							0.150			
b-3	345	88e							0.280			
b-4									0.210			
b-5									0.085			
b-6									0.460			
c-1	65	82s							0.170	1.710	0.285	0.184
c-2	65	78s							0.200			
c-3	65		ab to A					curving perpendicular	0.140			
c-4									0.380			
c-5									0.200			
c-6									0.620			

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set	strike	dip	m / ab / int	height	length	thick	character	other	spacing	total	ave.	S.D.
			site 92									
			08/15/2002/92									
a-1	60	89n	m to C							0.595	0.298	0.371
a-2	59	89s							0.560			
a-3									0.035			
b-1	80	88s		1	0.2				0.105	0.594	0.074	0.025
b-2	75	90							0.070			
b-3	73								0.110			
b-4									0.035			
b-5									0.080			
b-6									0.064			
b-7									0.050			
b-8									0.080			
c-1	340	88w	ab A							11.230	3.743	5.855
c-2	343	86w	ab A						0.160			
c-3	343	88w							0.570			
c-4	840								10.500			
			site 93									
			08/15/2002/93									
a-1	349	84w	m to B							4.400	1.467	1
a-2	347	84w							1.700			
a-3	349	84w							0.820			
a-4									1.880			
set	strike	dip	m / ab / int	height	length	thick	character	other	spacing	total	ave.	S.D.
b-1	59		ab A							13.400	6.700	1.556
b-2	57		ab A						7.800			
b-3	54								5.600			
			site 94									
			08/15/2002/94									

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a-1	6		m to B							6.010	1.202	1.547
a-2	10	87e							0.970			
a-3	9	87e							0.870			
a-4									3.880			
a-5									0.190			
a-6									0.100			
a-7	8											
b-0									0.490	2.692	0.207	0.242
b-1	62	89e							0.655			
b-2	65	81s							0.320			
b-3	63	84s							0.380			
b-4									0.580			
b-5									0.032			
b-6									0.040			
b-7									0.050			
b-8									0.040			
b-9									0.035			
b-10									0.020			
b-11									0.030			
b-12									0.020			
set	strike	dip	m / ab / int	height	length	thick	character	other	spacing	total	ave.	S.D.
c-1	110								0.150	1.200	0.150	0.065
c-2	73								0.205			
c-3	75								0.245			
c-4									0.180			
c-5									0.070			
c-6									0.110			
c-7									0.060			
c-8									0.180			

Appendix 3.1-5

Cayuga Data Year 2001 Addendum

Cayuga Data Year 2001 Addendum

#	PM	spc, m	strike	dip	hgt, m	lgth, m	layer thk	Abutting relationships	fracture character
7-10-01-112 Taughannock Creek above falls, below Trumansburg									
A set = NS									
1	CL		65	89E	2+	10+		FM(B)	pl
2	CL	0.42	65	90	2+	10+		FM(B)	pl
3	CL	0.4	63		2+	10+		FM(B)	pl
4	CL	1.5	64		2+	10+		FM(B)	pl
5	CL	1.26			2+	10+		FM(B)	pl
6	CL	0.75			2+	10+		FM(B)	pl
7	CL	0.46			2+	10+		FM(B)	pl
8	CL	0.17			2+	10+		FM(B)	pl
9	CL	0.43			2+	10+		FM(B)	pl
average spacing:			0.67375	frequency:			1.48423		
standard deviation:			0.4675754						
B set - only two									
1	CL		49		2+	15+		FA(A)	cl
2	CL	12	80s					FA(A)	
				frequency:			0.083		
7-10-01-113 Taughannock Creek All in Black Shale									
A set = 340's									
1	CL	0.088	345	1	.03+	10+		I	pl
2	CL	0.112	345	1	.03+	10+		I	pl
3	CL	0.013	345	1	.03+	10+		I	pl
4	CL	0.007	345	1	.03+	10+		I	pl
5	CL	0.02	345	1	.03+	10+		I	pl
6	CL	0.027	345	1	.03+	10+		I	pl
7	CL	0.02	345	1	.03+	10+		I	pl
8	CL	0.022	345	1	.03+	10+		I	pl
9	CL	0.03	345	1	.03+	10+		I	pl
10	CL	0.011	345	1	.03+	10+		I	pl
11	CL	0.13	345	1	.03+	10+		I	pl
12	CL	0.15	345	1	.03+	10+		I	pl
13	CL	0.11	345	1	.03+	10+		I	pl
14	CL	0.57	345	1	.03+	10+		I	pl
15	CL	0.055	345	1	.03+	10+		I	pl
16	CL	0.21	345	1	.03+	10+		I	pl
17	CL	0.06	345	1	.03+	10+		I	pl
18	CL	0.04	345	1	.03+	10+		I	pl
19	CL	0.27	345	1	.03+	10+		I	pl
20	CL	0.065	345	1	.03+	10+		I	pl
21	CL	0.105	345	1	.03+	10+		I	pl
22	CL	0.04	345	1	.03+	10+		I	pl
23	CL	0.025	345	1	.03+	10+		I	pl
24	CL	0.02	345	1	.03+	10+		I	pl
25	CL	0.1	345	1	.03+	10+		I	pl
26	CL	0.17	345	1	.03+	10+		I	pl
27	CL	0.3	345	1	.03+	10+		I	pl
28	CL	0.04	345	1	.03+	10+		I	pl
average spacing:			0.1003571	frequency:			9.964413		
standard deviation:			0.0339411						
B set = 5									
1	CL		7	90	02-.03+	15+		I	pl
2	CL	0.15	5	90	02-.03+	15+		I	pl
				frequency:			6.67		
C set = 90									
1	CL		89	90				I	
2	CL	5	89	90				I	

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3	CL	5.2	89	90				I	
average spacing:			5.1	frequency:			0.196		
standard deviation:			0.1414214						
7-10-01-114 Taughannock Creek Near where we parked									
1	CL		347	84E	3+	15+			pl
2	CL	0.69	349		3+	15+			pl
3	CL	0.69	349		3+	15+			pl
4	CL	0.97	349		3+	15+			pl
5	CL	0.58	349		3+	15+			pl
5	CL	0.51	349		3+	15+			pl
6	CL	0.37	349		3+	15+			pl
average spacing:			0.635	frequency:			1.574803		
standard deviation:			0.2035436						
7-11-01-115 Taughannock Creek									
Set A = 275's in black shale									
1	CL		85		0.5+	7+		A+I(335's)	pl
2	CL	1.12	87		0.5+	7+		I(355's)	pl
3	CL	1.65	272	82	0.5+	7+		A(70's curve perpendic.)	pl
4	CL	2.1	82		0.5+	7+			pl
5	CL	1.49	86		0.5+	7+			pl
6	CL	1.05	275		0.5+	7+			pl
7	CL	1.79	85	85	0.5+	7+			pl
average spacing:			1.5333333	frequency:			0.652174		
standard deviation:			0.4017296						
Set B = 335's									
1	CL		336	89W	2+	10+		M+I(EW), M(NS), M+I(70's)	pl
2	CL	5.12	335						
				frequency:			0.195		
Set C (NS)									
1	CL		355		.05+	7+		A(335, curv.perp.), I(EW)	pl
2	CL		356	86E					
3	CL		350						
4	CL		353						
5	CL		354						
Set D = 70's									
1	CL		69	84N	.3+	10		M(EW, curvperp), I(335's)	
2	CL								
7-11-01-116 Taughannock Creek, Just below 1st waterfall									
Set A = 345's									
1	CL		346	90	.3+	7+		I(B)	pl
2	CL	0.48			.3+	7+		I(B)	pl
3	CL	0.3	347	90	.3+	7+		I(B)	pl
4	CL	0.03			.3+	7+		I(B)	pl
5	CL	0.03			.3+	7+		I(B)	pl
6	CL	0.53			.3+	7+		I(B)	pl
7	CL	0.15	348	90	.3+	7+		I(B)	pl
8	CL	0.04			.3+	7+		I(B)	pl
9	CL	0.05			.3+	7+		I(B)	pl
average spacing:			0.20125	frequency:			4.968944		
standard deviation:			0.2089728						
Set B = 70's									
1	CL		69	90	.5+	5+		I(A)	pl
2	CL	0.56	68	90	.5+	5+		I(A)	pl
3	CL	0.98	71	90	.5+	5+		I(A)	pl
		0.17							
		1.94							
		1.47							

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		0.65							
average spacing:		0.9616667	frequency:		1.039861				
standard deviation:		0.6482412							
7-11-01-117 Taughannock Creek, Near large bend in Creek									
1	CL	0.19	335		.02+	3		A(2)	jag
2	CL	0.58	335		.04+	7+		M(1)	jag
3	CL	0.89	334		.01+	3		NA	pl
4	CL	1.4	335		.03+	10+		NA	pl
5	CL	1.7	334		.03+	10+		NA	pl
6	CL	2.29	335		.03+	10+		M(7), M(335 offline)	pl
7	CL	3.02	333		.03+	10+		M(8), A(6@90)	jag
8	CL	3.26	325		.03+	10+		A(7)	jag
9	CL	3.5	319		.03+	2		NA	jag
10	CL	3.7	330		.03+	2		NA	jag
11	CL	3.95	330		.03+	2		NA	jag
12	CL	4.45	330		.03+	2		NA	jag
13	CL	4.8	330		.03+	2		NA	jag
14	CL	5.4	330		.03+	2		NA	jag
15	CL	5.7	330		.03+	2		NA	jag
16	CL	6.03	330		.03+	2		NA	jag
17	CL	6.5	330		.03+	2		NA	jag
18	CL	7.1	335					I(17, 16, 15), M(19)	cl
19	CL	7.33	335					A(18)	rl
20	CL	7.66	335					M(21)	pl
21	CL	7.89	310					I(22), A(23, 20)	pl
22	CL	7.96	335					M(21)	pl
23	CL	8.26	335					NA	pl
24	CL	8.69	335					NA	pl
25	CL	9.35	335					NA	rl
average spacing:		4.864	frequency:		0.205592				
standard deviation:		2.7672535							
7-11-01-118 2nd creek north of the park									
1	CL		350	86	2+	7+			jag
2	CL	0.25	335						
3	CL	0.29	335						
4	CL	0.33	340	86					
5	CL	0.47	337	85					
average spacing:		0.335	frequency:		2.985075				
standard deviation:		0.0957427							
7-11-01-119 same creek as 118									
Set A = 335's Masters									
spacing ~1m									
Set B = 70's = Ab (335)									
spacing ~1.89									
7-11-01-120 same creek as 119									
Set A = 335's Masters									
1	CL		335	82W	.3+	9+		M	pl
2	CL	0.24	340	90	.3+	9+		M	pl
				frequency:		4.17			
Set B = 350's									
1	CL		350	89E	.3+	1+		A	pl
2	CL		349		.3+	1+		A	pl
7-11-01-121 same creek as 120									
Set A EW									
1	CL		285	84NE	.18+	1		A(335)	pl
2	CL	0.7	289		.30+	1		A(335), curveperp	pl
3	CL	0.45	290		1.89+	6+		I(335), I(70)	pl

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average spacing:	0.575	frequency:	1.73913		
standard deviation:	0.1767767				
Set B = 335's					
1	CL	337	.3+	1.3+	NA
2	CL	0.45	335	86E .4+	1.2
3	CL	0.53	334	90 .04+	1
average spacing:	0.49	frequency:	2.040816		
standard deviation:	0.0565685				
Set C = 70's					
	CL	65	90	2+	7+
					M(B2, B3), I(A3), M(EW)
					pl
7-12-10-125 3rd creek N of Park Rd, where fluvial debris ends					
Set A = EW					
1	CL	275	1+	<1.5+	M(335's)
2	CL	0.43	277	1+	<1.5+
3	CL	0.25	276	1+	<1.5+
4	CL	0.33	280	1+	<1.5+
5	CL	0.44	289	1+	<1.5+
6	CL	0.13	291	76NE 1+	<1.5+
7	CL	0.21	291	76NE 1+	<1.5+
average spacing:	0.2983333	frequency:	3.351955		
standard deviation:	0.1240027				
Set B = 335's					
1	CL	330	76E 0.3	.1+	A(EW)
2	CL	0.54	345	90 ery sho	ery short
3	CL	0.65	332	90 ery sho	ery short
4	CL	0.15	330	90 ery sho	ery short
average spacing:	0.4466667	frequency:	2.238806		
standard deviation:	0.262742				
Set C = NS					
1	CL	0		1+	A(EW)
					cl
7-12-01-126					
65's master to 335's twice, spacing of 65's = 4m					
7-12-01-130 Bigger Creek @ Boy Scout Camp					
Set A = 65					
1	CL	65	.4+	3+	MA+I(350's)
2	CL	1.91	69		MA+I(350's)
3	CL	0.6	70		MA+I(350's)
4	CL	2.3	70		MA+I(350's)
5	CL	1.88	67		MA+I(350's)
6	CL	0.65	65	.2+	.75+
7	CL	0.56	65	78SE	MA+I(350's)
average spacing:	1.3166667	frequency:	0.759494		
standard deviation:	0.7958559				
Set B = NS					
1	CL	0.18	350	10+	MA+I(65's)
2	CL	0.34	355		MA+I(65's)
3	CL	0.15	357		MA+I(65's)
		0.26			
		0.27			
		0.15			
		0.5			
		0.18			
		0.25			
		0.39			
average spacing:	0.267	frequency:	3.745318		
standard deviation:	0.1143144				
Set C					

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1	CL		300	73NE	.05+	2+		A(NS)	pl-cl
2	CL	4.5	290		.05+	2+			pl-cl
3	CL	2.2	289		.05+	2+			pl-cl
4	CL	1.8	285		.05+	2+			pl-cl
5	CL	0.6	300		.05+	2+			pl-cl
average spacing:			2.275	frequency:			0.43956		
standard deviation:			1.6317169						
7-12-01-131 Smaller creek on Boy Scout property, above major falls, intermittent stream									
335's perpendicular									
		0.35							
		0.15							
		1.03							
		0.3							
		2.6							
		0.26							
		0.1							
		0.18							
		0.45							
average spacing:			0.6022222	frequency:			1.660517		
standard deviation:			0.7987768						
7-12-01-132A Intermittent stream @ boy scout property, just SE of leantos, black shale									
Set A = 70									
1	CL		66	90	.5+	7+		A(340), I(325)	pl
Set B = 325's									
1	CL		328					I(70)	cl
2	CL	1.2	322						cl
3	CL	0.67	322						pl
4	CL		330						pl
			325						
average spacing:			0.935	frequency:			1.069519		
standard deviation:			0.3747666						
Set C = 340's									
1	CL		340					M(70)	pl
2	CL	1.53	342					A(325)	pl
				frequency:			0.654		
7-13-01-133A 2nd creek north of Park Road, Black Shale									
Set A = 75's									
1	CL		73	85S	.55+	3+		M(B1), I(NS)	pl
2	CL	2.95	74		.5+	7+			pl
3	CL	2.09	73						pl
4	CL	1.2	75	90					pl
		1.09							
average spacing:			1.8325	frequency:			0.545703		
standard deviation:			0.8691902						
Set B = ~310s									
1	CL		309	Var.	2+	6		A(A1,C2), I(75)	cl
2	CL	1.11	320	90	.75+	2.5		A(2-75'S)	pl
				frequency:			0.9		
Set C = ~NS									
1	CL		355	90	4+	7+			pl
2	CL	2.57	352	90				I(75's)	pl
3	CL	2.07	350					M(310's)	pl
4	CL	3.09	350						
average spacing:			2.5766667	frequency:			0.388098		
standard deviation:			0.5100327						
7-13-01-132B Trumansburg Creek, right under big blue house on North Bank, no data									
7-17-01-135 Taughannock Creek, above 96 Bridge									

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Set A = 75's									
1	CL		85	80S	0.14+	16+		M(345), I(345)	cl
2	CL	0.69	84		0.03+	3		cross(345)	cl
3	CL	4.4	79		0.14+	16+		A(345)	cl
4	CL	2	76		0.14+	16+		I(345)	cl
average spacing:			2.3633333		frequency:		0.423131		
standard deviation:			1.8814976						
Set B = 345									
1	CL		343	90	0.1	5+		I(A1)	pl
2	CL	0.35	344	83W	0.1	5+		I(A1)	pl
3	CL	9.2	345			2.3		A(A1)	pl
4	CL	2.3	345			2.3		A(A1)	pl
5	CL	0.19	345			2.3		A(A1)	pl
6	CL	2.9	345			2.3		A(A1)	pl
average spacing:			2.988		frequency:		0.334672		
standard deviation:			3.6693964						
7-17-01-136 Taughannock Creek, downstream from 135									
Set A = 345's									
1	CL		345	87NE	.5+	7+		I(B's)	pl
Set B = 45 F/D width of F/D = 8m									
1	CL		45	37SE	.5+	7+		I(A)	cl
2	CL		46	42SE	.5+	7+		I(A)	cl
3	CL		42	71SE	.5+	7+		I(A)	cl
4	CL		30	43SE	.5+	7+		I(A)	cl
		0.18							
		0.16							
		0.15							
		0.07							
		0.13							
		0.22							
		0.07							
		0.06							
		0.03							
		0.03							
		0.1							
average spacing:			0.1090909		frequency:		9.166667		
standard deviation:			0.0633174						
7-18-01-138 Taughannock Creek, just south of fairground 1.5cm/m, trend 330									
1	CL		336	90				NA	pl
2	CL	0.92	334	90				NA	pl
3	CL	0.82	335					NA	pl
4	CL	0.61	335					NA	pl
5	CL	0.86	335					NA	pl
6	CL	1.15	334					NA	pl
7	CL	0.99	335	90				NA	pl
8	CL	0.52	333					NA	pl
average spacing:			0.8385714		frequency:		1.192504		
standard deviation:			0.2164431						
7-18-01-139 Taughannock Creek, upstream from 138, just below fairgrounds									
Set A = 285									
1	CL		285		.05+	7+	0.15	I(B)	pl-cl
2	CL	0.56	90	90	.05+	7+	0.15	A(B), curveperp	
3	CL	0.53	90	90	.05+	7+	0.15		
4	CL	0.64	272	90	.05+	7+	0.15		
average spacing:			0.5766667		frequency:		1.734104		
standard deviation:			0.0568624						
Set B = 330									

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1	CL		331		.03+	1.5+	0.15	I(A)	pl
2	CL	0.07	335		.03+	1.5+	0.15	M(A)	pl
3	CL	0.2	335	90	.03+	1.5+	0.15		pl
average spacing:			0.135	frequency:			7.407407		
standard deviation:			0.0919239						
7-18 or 19-01-141 Little Point									
Set A									
1	CL		3		.75+	6+		I(B)	pl, eroded & (?) covered
2	CL	1.78	343	87E	.75+	6+		I(B)	pl
3	CL	3.7	2	90	.75+	6+		I(B) M(B'+C)	pl
4	CL	3.68	1	76E	.75+	6+		I(B) M(B')	pl eroded
average spacing:			3.0533333	frequency:			0.327511		
standard deviation:			1.1027844						
Set B outside FID									
1	CL		65		1+	13+		I(A)	pl
2	CL	0.34	66		1+	13+		I(A)	pl
3	CL	0.73	69	85S	1+	13+		I(A)	pl
4	CL	1.02			1+	13+		I(A)	pl
5	CL	0.71			1+	13+		I(A)	pl
6	CL	0.54			1+	13+		I(A)	pl
average spacing:			0.668	frequency:			1.497006		
standard deviation:			0.251734						
Set B' within FID									
1	CL		70		.3+	3.68		A(A3, A4)	pl
2	CL	0.065	65		.3+	3.68			pl
3	CL	0.27	70	89S	.3+	3.68			pl
4	CL	0.34	67		.3+	3.68			pl
5	CL	0.27	69		.3+	3.68			pl
6	CL	0.5	65		.3+	3.68			pl
7	CL	0.2	68		.3+	3.68			pl
average spacing:			0.2741667	frequency:			3.647416		
standard deviation:			0.1446519						
Set C									
1	CL		334	90	.10+	0.2		A(A3)	p
2	CL	0.07	333	90	.10+	0.2		A(A3)	
3	CL	0.08	333	90	.10+	0.2		A(A3)	
4	CL	0.09			.10+	0.2		A(A3)	
5	CL	0.05			.10+	0.2		A(A3)	
		0.03							
		0.01							
		0.05							
		0.015							
		0.01							
		0.015							
		0.05							
average spacing:			0.0427273	frequency:			23.40426		
standard deviation:			0.0289278						
7-19-01-142 Littlepoint smells like gas									
Set A = NS									
1	CL		351		2+	7+			pl
2	CL	0.15	349	80W	2+	7+			pl
3	CL	0.13	346		2+	7+			pl
4	CL	0.07	354	85W	2+	7+			pl
5	CL	0.14	355	89W	2+	7+			pl
6	CL	0.05	359	85W	2+	7+			pl
		0.42							
		0.1							

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		0.06							
		0.05							
		0.05							
		0.025							
		0.12							
average spacing:		0.11375	frequency:		8.791209				
standard deviation:		0.1049486							
Set B = ~60's									
1	CL		68	90	1.1+	15+		hook into each other	pl
2	CL	0.56	65	90	1.1+	15+			pl
3	CL	0.26	66	90	1.1+	15+			pl
4	CL	0.36	66	89SE	1.1+	15+			pl
average spacing:		0.3933333	frequency:		2.542373				
standard deviation:		0.1527525							
7-19-01-143 Little Point Waterfall									
Set A = 65									
1	CL		66	87S	6+	10+		I,M(B)	pl
2	CL	0.12	65	90	6+	10+		I,M(B)	pl
3	CL	0.18	66	86S	6+	10+		I,M(B)	pl
4	CL	1.2	65	89S	6+	10+		I,M(B)	pl
		1.45							
		0.35							
average spacing:		0.66	frequency:		1.515152				
standard deviation:		0.6192334							
Set B = ~ 330's									
1	CL		335	82NE	1.5+	7+			pl-erod
2	CL	0.23	332		1.5+	7+			pl-erod
3	CL	2.4	323	52NE	1.5+	7+			pl
4	CL	1.1	315	52NE	1.5+	7+			pl
average spacing:		1.2433333	frequency:		0.80429				
standard deviation:		1.0920775							
7-19-01-144 Little Point									
Set A spacing variable									
1	CL		350	83E	0.25+	3.5+		M(B)(B')	pl
2	CL	0.1	0	70E	0.25+	3.5+			cl
3	CL	0.28	359		0.25+	1.5'			cl
average spacing:		0.19	frequency:		5.263158				
standard deviation:		0.1272792							
Set B									
1	CL		323		.10+	0.48		A(A set)	pl
2	CL	0.11	330		.10+	0.48			pl
3	CL	0.12	327		.10+	0.48			pl
		0.04							
		0.03							
		0.05							
average spacing:		0.07	frequency:		14.28571				
standard deviation:		0.041833							
Set B'									
1	CL		10	63SE	0.07+	0.58		A(A set)	pl
2	CL	0.11	16		0.07+	0.58			pl
3	CL	0.14	13		0.07+	0.58			pl
average spacing:		0.125	frequency:		8				
standard deviation:		0.0212132							
7-19-01-145 Booth									
Set A = 335									
1	CL		332	90	0.15+	5+L		I,A(set B)	pl
2	CL	0.31	334	90	0.15+	5+L		I,A(set B)	pl

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3	CL	0.52	339	59E	0.15+	5+L		I,A(set B)	pl
		0.53							
		0.4							
average spacing:			0.44	frequency:		2.272727			
standard deviation:			0.1048809						
Set B = ~60's									
1	CL		65	90	0.15+	7+		I,M(set A)	pl
2	CL	1.2	70		0.15+	7+		I,M(set A)	pl
3	CL	0.88	65	89S	0.15+	7+		I,M(set A)	pl
		2.17							
average spacing:			1.4166667	frequency:		0.705882			
standard deviation:			0.671739						
7-19-01-146 Booth black shale									
Set A FID width FID = 3.5m									
1	CL		340	90	.5+	5+		I(70,275)	pl
2	CL	0.11	341	90	.5+	5+		I(70,275)	pl
3	CL	0.31	340	90	.5+	5+		I(70,275)	pl
		0.04							
		0.04							
		0.07							
		0.2							
		0.22							
		0.12							
		0.23							
average spacing:			0.1488889	frequency:		6.716418			
standard deviation:			0.0951899						
Set B = ~70's									
1	CL		76	85N	.3+	3		I(A)	pl
2	CL	1.4	76	84S	.3+	3		A(A), I(A)	pl
3	CL	2.1	75	90	.3+	6		I(A)	clfuseTW
average spacing:			1.75	frequency:		0.571429			
standard deviation:			0.4949747						
Set C = ~100's									
1	CL		101	71SW	.3+	2.5		A(NS), I(A), A(A)	pl
2	CL	0.49	103	71SW	.3+	2.5		I(50)	pl
3	CL	0.03	100	71SW	.3+	2.5			pl
4	CL	0.95	104	85S	.3+	2.5		I(50)	pl
average spacing:			0.49	frequency:		2.040816			
standard deviation:			0.46						
Set D, only one									
1	CL		3	90	4	8+		M(C,E)	pl
Set E									
1	CL		46	90	0.1	<0.32		A(D)	pl
2	CL	0.07	52	90	0.1	<0.32			pl
3	CL	0.08	51	90	0.1	<0.32			pl
		0.04							
		0.03							
		0.04							
		0.06							
		0.03							
		0.03							
		0.07							
		0.04							
		0.04							
average spacing:			0.0481818	frequency:		20.75472			
standard deviation:			0.0183402						
Set F									

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1	CL		329	80NE	0.35	4.5+		A(D), curv. perpendicular	pl-cl
2	CL	0.39	334	80NE	0.35	4.5+		A(D), curv. perpendicular	pl-cl
3	CL	0.15	339		0.35	4.5+		A(D), curv. perpendicular	pl-cl
		0.68							
		0.46							
average spacing:			0.42	frequency:			2.380952		
standard deviation:			0.218327						
7-19-01-147 Booth, waterfall									
Set A = ~NS									
1	CL		353	89E	.2+	8.5+		M(B)	pl
2	CL	0.48	349		.17+	2.95		I(C)	cl, junky
3	CL	0.7	2		.15+	4.5		A(C)	pl-cl
average spacing:			0.59	frequency:			1.694915		
standard deviation:			0.1555635						
Set B = ~20									
1	CL		13		.07+	<1			pl
2	CL		18	33NW	.07+	<1			pl
3	CL		18	90	.07+	<1			pl
		0.095							
		0.085							
		0.09							
		0.1							
		0.015							
		0.02							
		0.005							
		0.015							
		0.015							
		0.02							
average spacing:			0.046	frequency:			21.73913		
standard deviation:			0.0404008						
Set C = ~80's									
1	CL		87		3+	6-8+		I(A,B)	pl
2	CL	1.51	74	84N	3+	6-8+			pl
3	CL	2.5	75		3+	6-8+			pl
average spacing:			2.005	frequency:			0.498753		
standard deviation:			0.7000357						
7-24-01-154 Teeter Point									
Set A = ~310's -->Valley Effect									
1	CL		311	35SW	7+	5+		A(B)	cl
2	CL	0.68	308	36SW	7+	5+		A(B)	cl
3	CL	0.72	312	312	7+	5+		I(B)	cl
		0.82							
average spacing:			0.74	frequency:			1.351351		
standard deviation:			0.072111						
Set B = ~60's									
1	CL		68	90	7+	5+		M(A)	pl
2	CL	0.99	69	87	7+	5+		M(A)	pl
3		0.49	69	90	7+	5+		I(A)	pl
		0.53							
average spacing:			0.67	frequency:			1.492537		
standard deviation:			0.2778489						
7-25-01-157 Creek above the Kahn's House 3 Potter									
Set A									
1	CL		67	87	.1+	8+		M(B)	pl
2	CL	1.14	66	85	.1+	8+		M,I(B)	pl
3	CL	0.85	70		.1+	8+		M,I(B)	pl
		1							

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		0.34							
		0.8							
		2.17	upstream						
average spacing:		1.05	frequency:		0.952381				
standard deviation:		0.611817							
Set B									
1	CL		320	85E				I(70)	
2	CL	1.42	305					A(A), curv. Perp.	
3	CL	3.32	303						
4	CL		305	75E				A(A), curv. Perp, I(A)	
average spacing:		2.37	frequency:		0.421941				
standard deviation:		1.3435029							
Set C									
1	CL		335						xjnts
2	CL		340						
Set D									
1	CL		85	85N		0.33		A(305's) curv. Perpend.	pl-cl
		0.025							
		0.02							
		0.025							
		0.03							
average spacing:		0.025	frequency:		40				
standard deviation:		0.0040825							
7-25-01-158 Potter House Creek, S-Branch of Y									
Set A									
1	CL		72	89N	<2+	4-5+		A(B1)	pl
2	CL		72	87S	<2+	4-5+			pl
3	CL		69	90	<2+	4-5+			pl
		0.15							
		0.22							
		0.08							
		0.06							
		0.21							
		0.34							
		0.31							
		0.07							
		0.17							
		0.23							
average spacing:		0.184	frequency:		5.434783				
standard deviation:		0.097091							
downstream		0.08							
		0.0775							
		0.45							
		0.7							
		0.0225							
average spacing:		0.266	frequency:		3.759398				
standard deviation:		0.296493							
back to norm		0.1							
		0.18							
		0.18							
average spacing:		0.1533333	frequency:		6.521739				
standard deviation:		0.046188							
average spacing:		0.1989474	frequency:		5.026455				
standard deviation:		0.161934							
Set B = NS lots of sulfur smell and white hydrocarbon material									
1	CL		357	86W					
2	CL		356						

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		0.27							
		0.1							
		0.07							
		0.04							
		0.08							
		0.12							
		0.41							
average spacing:		0.1557143	frequency:		6.422018				
standard deviation:		0.1345185							
total width of lower FID = 1.03m									
Set C fringes									
	CL		20			<.5		A(B)	
	CL		17	88W				I(70)	
near B		0.015							
		0.015							
		0.005							
		0.005							
		0.005							
		0.005							
		0.0025							
		0.001							
average spacing:		0.0066875	frequency:		149.5327				
standard deviation:		0.0053381							
some curve parallel									
7-26-01-163 Nature Center, approximately 30m from waterfall									
Set A = NS FID									
1	CL		0	89	.4+	10+		I(B), FA(B)	pl
2	CL		5					with RL offset 0.025	
3	CL		3						
		0.19							
		0.16							
		0.1							
		?							
		0.1							
		0.19							
		0.59							
		0.2							
		0.41							
average spacing:		0.2425	frequency:		4.123711				
standard deviation:		0.1705244							
Set B = 70's									
1	CL		70	90	0.5+	5.5+		I(A), FM(A)	pl
2	CL	1.6	69	90					
3	CL	1.92	68	90					
average spacing:		1.76	frequency:		0.568182				
standard deviation:		0.2262742							
7-30-01-169 Glenwood Creek, behind Yacht									
Set A = NS									
1	CL		351	90	0.3+	1.5+		curving perp. W(B)	cl
2	CL	1.01	0	80W	0.35+	4+		I(B)	pl
3	CL	0.38	353	90	0.35+	4+		I(B)	pl
		0.19							
		1.52							
		0.49							
		0.51							
average spacing:		0.6833333	frequency:		1.463415				
standard deviation:		0.4918401							

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Set B = 65									
1	CL		65	90	.5+	10+		I(A)	pl
2	CL	1.6	64	90	.5+	10+		I(A)	pl
7-30-01-170 Maplewood Road just South of Wilson Driveway									
Set A									
1	CL		341	88E	2+	10+		A(B)	pl
2	CL	1.1	339	90	2+	10+		I(B)	pl
3	CL	1.01	334		2+	10+		I(B)	pl
average spacing:			1.055	frequency:			0.947867		
standard deviation:			0.0636396						
Set B									
1	CL		75	90	2+	8+		M(A1)	pl
2	CL	0.28	74	90	2+	8+		I	pl
3	CL	1.2	74	90	2+	8+		M(340)	pl
		1.9							
average spacing:			1.1266667	frequency:			0.887574		
standard deviation:			0.8124859						
7-31-01-174 Buttermilk Falls State Park, just south of King Road bridge									
Set A = 335									
1	CL		335	90	1.5+	10+		NA	pl
2	CL	2.25	334.5	90	1.5+	10+		NA	pl
3	CL	4	334.5	90	1.5+	10+		NA	pl
4	CL	3.2	336	90	1.5+	10+		NA	pl
average spacing:			3.15	frequency:			0.31746		
standard deviation:			0.8760708						
7-31-01-175 Buttermilk Falls State Park @ Treeman Lake									
Set A									
1	CL		336	89E	7+	11+		NA	pl
2	CL	2.2	336	90	7+	11+		NA	pl
3	CL	0.38	338	90	7+	11+		NA	pl
4	CL	2.2	337	90	7+	11+		NA	pl
average spacing:			1.5933333	frequency:			0.627615		
standard deviation:			1.0507775						
7-31-01-176 Buttermilk State Park 2nd Gorge North @ road to campground crossing									
Set A = 70 FID FID = 0.39m									
1	CL		70	85N	7+	6+		M(B)	pl
2	CL		68	90					
3	CL		69	86S					
w/in FID		0.14							
		0.18							
		0.14							
average spacing:			0.1533333	frequency:			6.521739		
standard deviation:			0.023094						
out of FID		3.3							
		1.9							
		1.6							
average spacing:			2.2666667	frequency:			0.441176		
standard deviation:			0.9073772						
average spacing:			1.0571429	frequency:			0.945946		
standard deviation:			1.2920526						
Set B									
1	CL		7	90	7+	6+		A(A)	pl-cl
2	CL	0.39	17		7+	6+		A(A)	pl-cl
				frequency:			2.564		
7-31-01-178 Rte 96 across from Kolar Machine Inc. Warehouse									
Set A									
1	CL		358	80E	8+	5+		M(B)	pl

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2	CL	0.58	350	85W	8+	5+			pl
3	CL	0.4	356	71E	8+	5+			pl
4	CL	1.61	356	71E	8+	5+			pl
average spacing:			0.8633333	frequency:			1.158301		
standard deviation:			0.6528655						
Set B = 65-85 can't reach A(A)									
7-31-01-179 1 road S of Cold Spring; 2nd Creek south of road									
Set A = 330 width FID = 0.43m									
inside FID									
1	CL		342	87NE	0.1+	5+		M+I(B)	pl
2	CL		335	82NE	0.1+	5+			pl
3	CL		346	90					
		0.015							
		0.045							
		0.015							
		0.025							
		0.02							
		0.05							
average spacing:			0.0283333	frequency:			35.29412		
standard deviation:			0.015384						
outside FID									
1	CL		334	84NE	0.1+	5+		M&I(B)	pl
2	CL		333	84NE					
3	CL		334	90					
		0.91							
		0.23							
		0.69							
		0.73							
		0.36							
average spacing:			0.584	frequency:			1.712329		
standard deviation:			0.2803212						
average spacing:			0.2809091	frequency:			3.559871		
standard deviation:			0.3402339						
Set B = 60									
1	CL		56	90	2+	10+		A&I(A)	pl
2	CL		57	89N					
3	CL		63	87N					
		0.23							
		0.1							
		0.28							
		0.17							
		0.1							
		0.4							
		0.2							
average spacing:			0.2114286	frequency:			4.72973		
standard deviation:			0.1058975						
7-31-01-180 1 road S of Cold Spring; 2nd Creek south of road									
Set A = 320									
1	CL		325		0.5+	5+		I(B)	cl, jag
2	CL	0.63	325						
3	CL	0.64	326						
average spacing:			0.635	frequency:			1.574803		
standard deviation:			0.0070711						
Set B = 70									
1	CL	0.66	70	86S	.11+	10+		M(D), I(C)	pl
2	CL	0.11	72	88S				I(A)	
3	CL	0.43	73	88S					

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average spacing:		0.4	frequency:		2.5			
standard deviation:		0.2762245						
Set C = 320								
1	CL		310	58SW			I(B), related to A	pl
2	CL	0.35	315					
			frequency:		2.857			
Set D								
1	CL	NA	345		0.05+	0.75+	A(B)	cl, xjoints
2	CL		340					
3	CL		0					
8-8-01-189 Willow Creek, upstream from campground								
1	CL		346	90	0.2+	5+	NA	pl
2	CL		341	90				
3	CL		342	85E				
		0.68						
		0.32						
		0.53						
		0.65						
		0.4						
average spacing:		0.516	frequency:		1.937984			
standard deviation:		0.1556599						
8-15-01-403 Father's Creek, near Friary, @ first small waterfall								
Set A								
1	CL		334	86E	1+	4+	M(B)	pl
2	CL	5.09	332	86E			M(C)	
3	CL	4.12	338	90				
average spacing:		4.605	frequency:		0.217155			
standard deviation:		0.6858936						
Set B								
1	CL		85	80N	0.2+	2.5+	A(A)	pl-cl
2	CL	0.35	87					
3	CL	0.16	270	72S				
average spacing:		0.255	frequency:		3.921569			
standard deviation:		0.1343503						
Set C								
1	CL		19	68SE	0.7+	1+	A(A)	pl-cl
2	CL	1.35	17	90				
3	CL	1.9	16	80SE				
average spacing:		1.625	frequency:		0.615385			
standard deviation:		0.3889087						
8-15-01-404 Father's Creek, near Friary								
Set A								
1	CL		334	90	0.09+	4+	I(B)	pl
2	CL	2.02	330	90				
3	CL	2.17	332	90				
average spacing:		2.095	frequency:		0.477327			
standard deviation:		0.106066						
Set B FID width = 0.29								
1	CL		56	81SE				pl-cl
2	CL		54	84SE				
3	CL		56	90				
		0.11						
		0.07						
		0.09						
		0.05						
average spacing:		0.08	frequency:		12.5			
standard deviation:		0.0258199						

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8-15-01-405 Friar's Creek Starting @ 89**Set A**

1	CL		65	90	0.75+	4+		A(B1), curving perp.	pl
2	CL	0.68	60	88				A(B1), w/ 2cm offset, RL	
				frequency:			1.471		

Set B

1	CL		359	90	0.03+	1+		M(A1&A2)	p
2	CL	0.63	10	90				M(C1), I(C2)	
				frequency:			1.587		

Set C

1	CL		330	90	0.07+	1.5+		A(B2)	p
2	CL	0.53	329	90				I(B1)	
				frequency:			1.887		

8-16-01-406 Kidder's Creek**Set A**

1	CL		75	89S	1+	8+		A,I(B)	
2	CL		74	87S					
3	CL		71	87S				M(C)	
		0.42							
		0.23							
		0.3							
		0.47							
		0.24							
		0.28							

average spacing: 0.3233333 frequency: 3.092784

standard deviation: 0.0989276

Set B

1	CL		342	90	0.2+	4+		M,I(A), I(C)	pl
2	CL	0.32	335	90					
3	CL	0.52	336	89W					
		0.49							
		0.77							
		1.78							
		0.21							
		0.36							

average spacing: 0.6357143 frequency: 1.573034

standard deviation: 0.5352525

Set C

1	CL		304	85NE	0.3+	1+		I(B), A(A)	pl-cl, clwsttwist
---	----	--	-----	------	------	----	--	------------	-------------------

8-16-01-407 Kidders Creek**Set A = 65**

	CL	0.52						MA(B)	
		0.17						MA(B)	

average spacing: 0.345 frequency: 2.898551

standard deviation: 0.2474874

Set B = 285

	CL	0.61							
		0.57							

average spacing: 0.59 frequency: 1.694915

standard deviation: 0.0282843

8-16-01-408 Kidder's Creek**Set A FID = 1.5m**

1	CL		334	0.3+	0.75+			I(EW, 65)	pl
2	CL		326						
3	CL		334						

within FID

		0.1							
		0.08							

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		0.23							
		0.18							
		0.07							
average spacing:		0.132	frequency:		7.575758				
standard deviation:									
outside FID		0.78							
		0.64							
		0.83							
average spacing:		0.75	frequency:		1.333333				
standard deviation:		0.0984886							
average spacing:		0.36375	frequency:		2.749141				
standard deviation:		0.3284134							
Set B = EW									
1	CL								
Set C = 65									
1	CL								
8-16-01-410 Creek South of Cnty Rte 1 shale									
Set A									
1	CL		0	90	0.10+	10+		I(B), M+I(B')	pl
Set B									
1	CL	0.6	332	90	0.10+	10+		I(A)	pl
2	CL	0.43	328		0	10+			
3	CL	1.31	329		0	10+			
average spacing:		0.78	frequency:		1.282051				
standard deviation:		0.4667976							
Set B'									
1	CL	0.09	330	90	0	0.3		I+A(A)	pl
2	CL	0.07	330	90					
3	CL	0.11							
		0.05							
		0.08							
average spacing:		0.08	frequency:		12.5				
standard deviation:		0.0223607							

Appendices 3.4-1

Soilgas Data Year 2002

Soilgas Data for Traverse 2002-1

Traverse 2002-1					6/4/2002	
Operators;J. Fountain, M. Fountain, T. Nelson, J. Zybala, C. Nochajski, A. Harper						
H2=O.K Batt=8.0 Leak Test=O.K Flow=O.K						
Sample # 0 is @ SE edge of intersection						
Traverse begins @ Junction of Seneca Rd and Lodi Center Rd.						
Sample #	Distance (m)	Distance (ft.)	Bkgd	Peak	Net	Comments
0a	0	0	6.1	12.8	6.7	
0b	0	0	6.1	14.6	8.5	
1	10	32.81	6.1	9.2	3.1	
2	20	65.62	6.1	7.3	1.2	
3	30	98.43	6.1	10.2	4.1	
4	40	131.24	6.1	7.3	1.2	
5	50	164.05	6.1	32.8	26.7	
6	60	196.86	6.1	10.5	4.4	
7	70	229.67	6.1	7.9	1.8	
8	80	262.48	6.1	6.5	0.4	
9	90	295.29	6.1	6.4	0.3	
10a	100	328.1	6.1	6.8	0.7	
10b	100	328.1	6.1	6.8	0.7	
11	110	360.91	6.1	7.5	1.4	
12	120	393.72	6.1	6.2	0.1	
13	130	426.53	6.1	6.7	0.6	samples shallow due to wet soil
14	140	459.34	6.1	6.7	0.6	
15	150	492.15	6.1	6.3	0.2	
16	160	524.96	6.1	6.8	0.7	
17	170	557.77	6.1	6.5	0.4	
18	180	590.58	6.1	6.5	0.4	
19	190	623.39	6.1	7.9	1.8	
20a	200	656.2	6.1	7	0.9	
20b	200	656.2	6.1	7.2	1.1	
21	210	689.01	6.1	7.9	1.8	
22	220	721.82	6.1	6.8	0.7	
23	230	754.63	6.1	8	1.9	
24	240	787.44	6.1	7.4	1.3	
25	250	820.25	6.1	7.9	1.8	
26	260	853.06	6.1	9	2.9	
27	270	885.87	6.1	6.5	0.4	
28	280	918.68	6	6.5	0.5	
29	290	951.49	6	7	1	
30a	300	984.3	6	6.9	0.9	
30b	300	984.3	6	6.8	0.8	
31	310	1017.11	6	6.8	0.8	
32	320	1049.92	6	6.4	0.4	
33	330	1082.73	6	7.4	1.4	
34	340	1115.54	6	6.8	0.8	
35	350	1148.35	6	14.2	8.2	
36	360	1181.16	6	6.2	0.2	
37	370	1213.97	6	6.9	0.9	
38	380	1246.78	6	10.2	4.2	
39	390	1279.59	6	6.9	0.9	
40a	400	1312.4	6	7	1	
40b	400	1312.4	6	6.6	0.6	
41	410	1345.21	6.1	6.7	0.6	

Soilgas Data for Traverse 2002-1

42	420	1378.02	6.1	8.7	2.6	
43	430	1410.83	6.1	6.7	0.6	
44	440	1443.64	6.1	9.30	3.2	
45	450	1476.45	6.1	6.9	0.8	
46	460	1509.26	6.1	8.7	2.6	
47	470	1542.07	6.1	7.9	1.8	
48	480	1574.88	6.1	8.7	2.6	
49	490	1607.69	6.1	7.8	1.7	
50a	500	1640.5	6	8.7	2.7	
50b	500	1640.5	6	7.4	1.4	
51	510	1673.31	6	8.6	2.6	
52	520	1706.12	6	12.8	6.8	
53	530	1738.93	6	10.3	4.3	
54	540	1771.74	6	10.7	4.7	
55	550	1804.55	6	13.8	7.8	
56	560	1837.36	6	11.7	5.7	
57	570	1870.17	6	7.5	1.5	
58	580	1902.98	6	9.5	3.5	
59	590	1935.79	6	17.1	11.1	at base of hill
60a	600	1968.6	6	12.8	6.8	
60b	600	1968.6	6	10.1	4.1	
61	610	2001.41	6	7.2	1.2	
62	620	2034.22	6	7.8	1.8	
63	630	2067.03	5.9	10	4.1	
64	640	2099.84	5.9	15.3	9.4	
65	650	2132.65	5.9	7.9	2	
66	660	2165.46	5.9	7.4	1.5	
67	670	2198.27	5.8	8	2.2	
68	680	2231.08	5.8	6.7	0.9	
69	690	2263.89	5.8	6.9	1.1	
70a	700	2296.7	5.8	6.5	0.7	
70b	700	2296.7	5.8	6.8	1	
71	710	2329.51	5.8	6.5	0.7	
72	720	2362.32	5.8	8.1	2.3	
73	730	2395.13	5.8	10.7	4.9	
74	740	2427.94	5.8	8.8	3	
75	750	2460.75	5.8	6.5	0.7	
76	760	2493.56	5.7	14	8.3	
77	770	2526.37	5.7	8.2	2.5	
78	780	2559.18	5.7	8.1	2.4	
79	790	2591.99	5.7	7.2	1.5	
80a	800	2624.8	5.7	7.7	2	
80b	800	2624.8	5.7	10.3	4.6	
81	810	2657.61	5.7	6.3	0.6	
82	820	2690.42	5.7	9.3	3.6	
83	830	2723.23	5.7	6.3	0.6	
84	840	2756.04	5.7	7.2	1.5	
85	850	2788.85	5.7	8.9	3.2	
86	860	2821.66	5.9	8.6	2.7	
87	870	2854.47	5.9	8.9	3	
88	880	2887.28	5.9	10.3	4.4	
89	890	2920.09	5.9	9	3.1	
90a	900	2952.9	5.9	6.7	0.8	
90b	900	2952.9	5.9	7.1	1.2	
91	910	2985.71	5.9	8.5	2.6	
92	920	3018.52	5.9	7.2	1.3	
93	930	3051.33	5.9	7.2	1.3	

Soilgas Data for Traverse 2002-1

94	940	3084.14	5.9	6.8	0.9	
95	950	3116.95	5.9	7.5	1.6	
96	960	3149.76	5.9	6.7	0.8	
97	970	3182.57	5.9	7.6	1.7	
98	980	3215.38	5.9	12.9	7	
99	990	3248.19	5.9	7.2	1.3	at N edge rd. to well
100a	1000	3281	5.9	7.8	1.9	
100b	1000	3281	5.9	7.4	1.5	
101	1010	3313.81	5.9	10.3	4.4	
102	1020	3346.62	5.9	9	3.1	
103	1030	3379.43	6.1	7.9	1.8	
104	1040	3412.24	6.1	7.9	1.8	
105	1050	3445.05	6.1	9.8	3.7	
106	1060	3477.86	6.1	7	0.9	
107	1070	3510.67	6.1	9.2	3.1	
108	1080	3543.48	6	8.6	2.6	
109	1090	3576.29	6	13.6	7.6	
110a	1100	3609.1	6	9.2	3.2	
110b	1100	3609.1	6	13.3	7.3	
111	1110	3641.91	6	9	3	
112	1120	3674.72	6	9	3	
113	1130	3707.53	6	10.3	4.3	
114	1140	3740.34	6	8.4	2.4	
115	1150	3773.15	6.3	7.5	1.2	
116	1160	3805.96	6.3	8.3	2	
117	1170	3838.77	6.3	10.2	3.9	
118	1180	3871.58	6.3	9	2.7	
119	1190	3904.39	6.3	9.1	2.8	
120a	1200	3937.2	6.3	9.1	2.8	
120b	1200	3937.2	6.3	8.8	2.5	
121	1210	3970.01	6.3	8.6	2.3	
122	1220	4002.82	6.3	9.7	3.4	
123	1230	4035.63	6.3	8.9	2.6	
124	1240	4068.44	6	8.6	2.6	
125	1250	4101.25	6	9.1	3.1	
126	1260	4134.06	6	9.2	3.2	
127	1270	4166.87	6	11.8	5.8	
128	1280	4199.68	6	10	4	
129	1290	4232.49	6	9.5	3.5	
130a	1300	4265.3	6.1	12.2	6.1	
130b	1300	4265.3	6.1	10	3.9	
131	1310	4298.11	6.1	8.7	2.6	
132	1320	4330.92	6.1	9.3	3.2	
133	1330	4363.73	6.1	9	2.9	very wet soil
134	1340	4396.54	6.1	9.9	3.8	
135	1350	4429.35	6.1	8.4	2.3	
136	1360	4462.16	6.1	8	1.9	
137	1370	4494.97	6.1	9.8	3.7	
138	1380	4527.78	6.1	8.9	2.8	
139	1390	4560.59	6.1	7.5	1.4	
140a	1400	4593.4	6.1	14.1	8	
140b	1400	4593.4	6.1	14	7.9	
141	1410	4626.21	6.1	8	1.9	at corner Wilkins rd.
142	1420	4659.02	6.1	9.1	3	
143	1430	4691.83	6.1	8.1	2	
144	1440	4724.64	6.1	7.3	1.2	
145	1450	4757.45	6.1	7.8	1.7	

Soilgas Data for Traverse 2002-1

146	1460	4790.26	6.1	7.7	1.6	
147	1470	4823.07	6	7.9	1.9	
148	1480	4855.88	6	8.4	2.4	
149	1490	4888.69	6	7.7	1.7	
150a	1500	4921.5	6	7.8	1.8	
150b	1500	4921.5	6	9.7	3.7	
151	1510	4954.31	5.8	8.8	3	
152	1520	4987.12	5.8	7.2	1.4	
153	1530	5019.93	5.8	8	2.2	
154	1540	5052.74	5.8	13.8	8	very wet standing
155	1550	5085.55	5.8	7.3	1.5	water along road
156	1560	5118.36	5.8	9.3	3.5	
157	1570	5151.17	5.9	6	0.1	this was air
Stop - to wet to continue. End Past Wilkens Rd.						
Traverse 2002-2						
					6/25/2002	
Operators; J. Fountain, M. Fountain, T. Nelson, J. Zybala, C. Nochajski, A. Harper						
H2=O.K Batt=8.0 Leak Test=O.K Flow=O.K						
Sample # 0 at southwest corner of Arden covert and Six corners						
sample #	distance (m)	distance (ft)	background	peak	net	comments
0a	0	0	7.7	7.8	0.1	soil saturation = 55%
0b	0	0	7.7	8.1	0.4	
1	10	32.81	7.9	8.5	0.6	
2	20	65.62	7.9	8.8	0.9	
3	30	98.43	7.9	8.4	0.5	
4	40	131.24	7.9	8.6	0.7	
5	50	164.05	7.9	8.8	0.9	
6	60	196.86	7.9	9	1.1	
7	70	229.67	7.9	9.1	1.2	
8	80	262.48	7.9	11.6	3.7	Kept
9	90	295.29	7.9	9.4	1.5	
10a	100	328.1	8.2	10.6	2.4	
10b	100	328.1	8.2	11	2.8	
11	110	360.91	8.2	10.1	1.9	
12	120	393.72	8.2	10.4	2.2	
13	130	426.53	8.2	12.8	4.6	Kept
14	140	459.34	8.2	9.4	1.2	
15	150	492.15	8.2	10.6	2.4	
16	160	524.96	8.2	8.2	0	
17	170	557.77	8	9.4	1.4	
18	180	590.58	8	9.5	1.5	
19	190	623.39	8	9.5	1.5	
20a	200	656.2	8	12.5	4.5	Kept
20b	200	656.2	8.3	13	4.7	Kept
21	210	689.01	8.3	9.6	1.3	
22	220	721.82	8.3	9.9	1.6	
23	230	754.63	8.3	8.8	0.5	
24	240	787.44	8.3	10.4	2.1	
25	250	820.25	8.3	11.4	3.1	
26	260	853.06	8.3	18.2	9.9	Kept
27	270	885.87	8.3	11.7	3.4	
28	280	918.68	8.3	12.2	3.9	

Soilgas Data for Traverse 2002-1

29	290	951.49	8.4	8.8	0.4	
30a	300	984.3	8.4	33.1	24.7	Kept
30b	300	984.3	8.4	17.4	9	Kept
31	310	1017.11	8.4	17.9	9.5	
32	320	1049.92	8.4	12.3	3.9	
33	330	1082.73	8.4	13.2	4.8	
34	340	1115.54	8.4	31.5	23.1	Kept
35	350	1148.35	8.4	10.2	1.8	
36	360	1181.16	8.4	13.4	5	
37	370	1213.97	8.4	21.5	13.1	Kept
38	380	1246.78	8.4	22.8	14.4	Kept
39	390	1279.59	8.2	10.7	2.5	
40a	400	1312.4	8.2	9.8	1.6	
40b	400	1312.4	8.2	9.6	1.4	
41	410	1345.21	8.2	10.1	1.9	
42	420	1378.02	8.2	9.8	1.6	
43	430	1410.83	8.2	9.9	1.7	
44	440	1443.64	8.2	9.2	1	
45	450	1476.45	8.2	11.5	3.3	
46	460	1509.26	8.2	9.7	1.5	
47	470	1542.07	8.2	12.6	4.4	
48	480	1574.88	8.2	14.3	6.1	Kept
49	490	1607.69	8.2	27.6	19.4	Kept
50a	500	1640.5	8.2	8.8	0.6	
50b	500	1640.5	8.2	9.8	1.6	
51	510	1673.31	8.2	9.7	1.5	
52	520	1706.12	8.2	11.5	3.3	
53	530	1738.93	8.2	10.4	2.2	
54	540	1771.74	8.2	10.3	2.1	
55	550	1804.55	8.2	10.9	2.7	
56	560	1837.36	8.2	10.7	2.5	
57	570	1870.17	8.2	10	1.8	
58	580	1902.98	8.2	12.7	4.5	
59	590	1935.79	8.2	10.5	2.3	
60a	600	1968.6	8.2	8.2	0	
60b	600	1968.6	8.2	9.8	1.6	
61	610	2001.41	8.2	9.3	1.1	
62	620	2034.22	8.2	9.9	1.7	
63	630	2067.03	8.2	10.5	2.3	
64	640	2099.84	8.1	13.3	5.2	Kept
65	650	2132.65	8.1	10.9	2.8	
66	660	2165.46	8.1	15.9	7.8	Kept
67	670	2198.27	8.1	11.7	3.6	wet wrong side of
68	680	2231.08	7.4	14.2	6.8	road due to wet soil
69	690	2263.89	7.4	10.2	2.8	
70a	700	2296.7	7.4	10	2.6	
70b	700	2296.7	7.4	10.6	3.2	
71	710	2329.51	7.4	12.6	5.2	
72	720	2362.32	7.9	12.3	4.4	
73	730	2395.13	7.9	14.7	6.8	
74	740	2427.94	7.9	28.9	21	Kept
75	750	2460.75	7.9	15.6	7.7	Kept
76	760	2493.56	7.9	30	22.1	Kept
77	770	2526.37	7.9	29	21.1	Kept
78	780	2559.18	7.9	13.4	5.5	
79	790	2591.99	7.9	10.2	2.3	
80a	800	2624.8	7.9	13.4	5.5	

Soilgas Data for Traverse 2002-1

80b	800	2624.8	7.9	20.4	12.5	Kept
81	810	2657.61	7.9	36	28.1	Kept
82	820	2690.42	7.9	12	4.1	
83	830	2723.23	7.6	14.5	6.9	
84	840	2756.04	7.6	23.2	15.6	Kept
85	850	2788.85	7.6	17.7	10.1	
86	860	2821.66	7.6	19.8	12.2	Kept
87	870	2854.47	7.6	12.5	4.9	
88	880	2887.28	7.6	18	10.4	Kept
89	890	2920.09	7.8	10.3	2.5	
90a	900	2952.9	7.8	10.5	2.7	
90b	900	2952.9	7.8	16	8.2	
91	910	2985.71	7.8	15.9	8.1	
92	920	3018.52	7.8	11.1	3.3	
93	930	3051.33	7.7	9.2	1.5	
94	940	3084.14	7.7	15.8	8.1	
95	950	3116.95	7.7	8	0.3	
96	960	3149.76	7.7	11.6	3.9	
97	970	3182.57	7.7	11.8	4.1	
98	980	3215.38	7.7	9	1.3	
99	990	3248.19	7.7	20.9	13.2	Kept
100a	1000	3281	7.7	11.9	4.2	
100b	1000	3281	7.7	9	1.3	
101	1010	3313.81	7.9	14.1	6.2	
102	1020	3346.62	7.9	13.4	5.5	
103	1030	3379.43	7.9	15.1	7.2	
104	1040	3412.24	7.9	13.3	5.4	
105	1050	3445.05	7.9	8.1	0.2	
106	1060	3477.86	7.9	9.7	1.8	
107	1070	3510.67	7.9	20	12.1	Kept
108	1080	3543.48	7.9	18.3	10.4	Kept
109	1090	3576.29	7.9	16.6	8.7	
110a	1100	3609.1	7.9	10.6	2.7	
110b	1100	3609.1	8	10.4	2.4	
111	1110	3641.91	8	12.5	4.5	
112	1120	3674.72	8.7	8.7	0	
113	1130	3707.53	8.7	8.7	0	
114	1140	3740.34	8.7	12.4	3.7	
115	1150	3773.15	8.7	12.8	4.1	
116	1160	3805.96	8.7	12.4	3.7	
117	1170	3838.77	8.5	9.8	1.3	
118	1180	3871.58	8.5	9.2	0.7	
119	1190	3904.39	8.5	9.2	0.7	
120a	1200	3937.2	8.5	8.7	0.2	
120b	1200	3937.2	8.5	0	0	No Sample Taken
121	1210	3970.01	8.5	22	13.5	Kept
122	1220	4002.82	8.5	10.6	2.1	
123	1230	4035.63	8.5	17.1	8.6	
124	1240	4068.44	8.5	14.3	5.8	
125	1250	4101.25	8.5	96.5	88	Kept
126	1260	4134.06	8.5	8.6	0.1	
127	1270	4166.87	8.5	9	0.5	
128	1280	4199.68	8.5	15.8	7.3	
129	1290	4232.49	8.5	12.2	3.7	
130a	1300	4265.3	8.5	46.2	37.7	Kept
130b	1300	4265.3	8.5	28.9	20.4	Kept
131	1310	4298.11	8.5	13.1	4.6	

Soilgas Data for Traverse 2002-1

132	1320	4330.92	8.5	9.3	0.8	
133	1330	4363.73	8.5	8.9	0.4	
134	1340	4396.54	8.5	11	2.5	
135	1350	4429.35	8.5	8.7	0.2	
136	1360	4462.16	8.8	13.6	4.8	
137	1370	4494.97	8.8	16.5	7.7	
138	1380	4527.78	8.8	11.4	2.6	
139	1390	4560.59	8.8	11.4	2.6	
140a	1400	4593.4	8.8	25.9	17.1	Kept
140b	1400	4593.4	8.8	14.6	5.8	
141	1410	4626.21	8.8	29.6	20.8	Kept
142	1420	4659.02	8.8	21.2	12.4	Kept
143	1430	4691.83	8.8	30.7	21.9	Kept
144	1440	4724.64	8.8	0	0	in road no sample
145	1450	4757.45	8.8	10.9	2.1	
146	1460	4790.26	8.8	12.8	4	Kept
147	1470	4823.07	8.8	10.3	1.5	
148	1480	4855.88	8.8	13.4	4.6	
149	1490	4888.69	8.8	38.9	30.1	Kept
150a	1500	4921.5	8.9	18.6	9.7	Kept
150b	1500	4921.5	8.9	16.3	7.4	
151	1510	4954.31	8.9	12	3.1	
152	1520	4987.12	8.9	24.1	15.2	Kept
153	1530	5019.93	8.9	233.6	224.7	Kept
154	1540	5052.74	8.7	95	86.3	Kept
155	1550	5085.55	8.7	58.3	49.6	Kept
156	1560	5118.36	8.7	12.6	3.9	
157	1570	5151.17	8.7	14.9	6.2	
158	1580	5183.98	8.7	8.7	0	
159	1590	5216.79	8	17.8	9.8	
160a	1600	5249.6	8	14.6	6.6	Kept
160b	1600	5249.6	8	24.3	16.3	
161	1610	5282.41	8	15.6	7.6	
162	1620	5315.22	8	11.6	3.6	
163	1630	5348.03	8.3	19.6	11.3	
164	1640	5380.84	8.3	37.7	29.4	Kept
165	1650	5413.65	8.3	22.1	13.8	
166	1660	5446.46	8.3	18	9.7	
167	1670	5479.27	8.3	32.1	23.8	Kept
168	1680	5512.08	8.3	23.9	15.6	Kept
169	1690	5544.89	8.3	17	8.7	
170a	1700	5577.7	8.3	22.1	13.8	Kept
170b	1700	5577.7	8.3	18	9.7	
171	1710	5610.51	7.8	17	9.2	
172	1720	5643.32	7.8	16.4	8.6	
173	1730	5676.13	7.8	13.5	5.7	
174	1740	5708.94	7.8	24.8	17	
175	1750	5741.75	7.8	20.2	12.4	Kept
176	1760	5774.56	7.8	13.3	5.5	
177	1770	5807.37	7.8	15.9	8.1	
178	1780	5840.18	7.8	10	2.2	
179	1790	5872.99	7.8	10.2	2.4	
180a	1800	5905.8	7.7	8.1	0.4	
180b	1800	5905.8	7.7	9.2	1.5	
181	1810	5938.61	7.8	7.8	0	
182	1820	5971.42	7.8	9.6	1.8	
183	1830	6004.23	7.8	8	0.2	

Soilgas Data for Traverse 2002-1

184	1840	6037.04	7.8	11.1	3.3	
185	1850	6069.85	8.2	16.1	7.9	
186	1860	6102.66	8.2	23.9	15.7	
187	1870	6135.47	8.2	27.5	19.3	Kept
188	1880	6168.28	8.2	0	0	
189	1890	6201.09	8.2	9	0.8	
190a	1900	6233.9	8.2	9.4	1.2	
190b	1900	6233.9	7.6	8.5	0.9	
191	1910	6266.71	7.6	22	14.4	Kept
192	1920	6299.52	7.6	7.6	0	
193	1930	6332.33	7.6	0	0	on bridge no sample
194	1940	6365.14	7.6	54.2	46.6	Kept
195	1950	6397.95	7.6	16.6	9	
196	1960	6430.76	7.5	8.5	1	
197	1970	6463.57	7.5	7.5	0	
198	1980	6496.38	7.5	21.8	14.3	Kept
199	1990	6529.19	7.5	12.2	4.7	
200a	2000	6562	7.5	8.8	1.3	
200b	2000	6562	7.5	7.7	0.2	
201	2010	6594.81	7.5	10.4	2.9	
202	2020	6627.62	7.5	7.7	0.2	
203	2030	6660.43	7.6	8	0.4	
204	2040	6693.24	7.6	11.6	4	
205	2050	6726.05	7.8	18	10.2	
206	2060	6758.86	7.8	11.7	3.9	
207	2070	6791.67	7.8	17.9	10.1	
208	2080	6824.48	7.8	10	2.2	
209	2090	6857.29	7.8	16.3	8.5	
210a	2100	6890.1	7.8	13.9	6.1	Kept
210b	2100	6890.1	7.8	18.6	10.8	
211	2110	6922.91	7.9	12.8	4.9	
212	2120	6955.72	7.9	11.2	3.3	
213	2130	6988.53	7.9	10.7	2.8	
214	2140	7021.34	7.9	13.5	5.6	
215	2150	7054.15	7.9	13.8	5.9	
216	2160	7086.96	7.9	10.2	2.3	
217	2170	7119.77	7.9	7.9	0	
218	2180	7152.58	7.9	22.6	14.7	Kept
219	2190	7185.39	7.9	12.1	4.2	
220a	2200	7218.2	7.9	23.6	15.7	
220b	2200	7218.2	7.9	18.7	10.8	
221	2210	7251.01	7.9	8	0.1	
222	2220	7283.82	7.9	13.3	5.4	
223	2230	7316.63	7.9	11.8	3.9	
224	2240	7349.44	7.9	14.2	6.3	
225	2250	7382.25	7.9	9.9	2	
226	2260	7415.06	7.9	23.2	15.3	
227	2270	7447.87	7.9	34.3	26.4	Kept
228	2280	7480.68	7.9	9.3	1.4	
229	2290	7513.49	7.9	13.6	5.7	
230a	2300	7546.3	7.9	11.9	4	
230b	2300	7546.3	7.9	11.7	3.8	
231	2310	7579.11	7.9	12.9	5	
232	2320	7611.92	7.9	10.8	2.9	
233	2330	7644.73	7.5	9.5	2	
234	2340	7677.54	7.5	13.1	5.6	
235	2350	7710.35	7.5	26.4	18.9	Kept

Soilgas Data for Traverse 2002-1

236	2360	7743.16	7.5	13.4	5.9	
237	2370	7775.97	7.5	11	3.5	
238	2380	7808.78	7.5	13.6	6.1	
239	2390	7841.59	7.5	17	9.5	
240a	2400	7874.4	8	15.2	7.2	
240b	2400	7874.4	8	12.4	4.4	
241	2410	7907.21	8	16.8	8.8	
242	2420	7940.02	8	11	3	
243	2430	7972.83	8	15.9	7.9	
244	2440	8005.64	8	14.4	6.4	
245	2450	8038.45	7.7	14	6.3	
246	2460	8071.26	7.7	16.2	8.5	
247	2470	8104.07	7.7	57	49.3	Kept
248	2480	8136.88	7.7	14.8	7.1	
249	2490	8169.69	7.7	15.5	7.8	
250a	2500	8202.5	7.7	20.7	13	
250b	2500	8202.5	7.7	17	9.3	
251	2510	8235.31	7.7	19	11.3	
252	2520	8268.12	7.7	11.1	3.4	
253	2530	8300.93	7.7	16.5	8.8	
254	2540	8333.74	7.7	13.6	5.9	
255	2550	8366.55	7.8	25.8	18	Kept
256	2560	8399.36	7.8	13.3	5.5	
257	2570	8432.17	7.8	14	6.2	
258	2580	8464.98	7.8	13	5.2	
259	2590	8497.79	7.8	14.4	6.6	
260a	2600	8530.6	7.8	8.6	0.8	
260b	2600	8530.6	7.8	14.8	7	
261	2610	8563.41	7.8	11.7	3.9	
262	2620	8596.22	7.8	11.3	3.5	
263	2630	8629.03	7.7	8.3	0.6	
264	2640	8661.84	7.7	10	2.3	
265	2650	8694.65	7.7	11	3.3	
266	2660	8727.46	7.7	9.3	1.6	
267	2670	8760.27	7.7	10.2	2.5	
268	2680	8793.08	7.7	10.1	2.4	
269	2690	8825.89	7.6	11	3.4	
270a	2700	8858.7	7.8	10	2.2	
270b	2700	8858.7	7.8	11.4	3.6	
271	2710	8891.51	7.8	12.1	4.3	
272	2720	8924.32	7.7	12.1	4.4	
273	2730	8957.13	7.7	10.4	2.7	
274	2740	8989.94	7.7	78.6	70.9	Kept
275	2750	9022.75	7.7	11	3.3	
276	2760	9055.56	7.7	9.9	2.2	
277	2770	9088.37	7.7	15.1	7.4	
278	2780	9121.18	7.7	18	10.3	
279	2790	9153.99	7.7	18.5	10.8	
280a	2800	9186.8	7.7	14.7	7	
280b	2800	9186.8	7.7	11.9	4.2	
281	2810	9219.61	7.7	9.4	1.7	
282	2820	9252.42	7.7	10.3	2.6	Last sample
End at Seneca Road on north side of Seneca St.						
Traverse 2002-3					6/26/2002	
Operators;J. Fountain, M. Fountain, T. Nelson, J. Zybala, C. Nochajski, A. Harper						

Soilgas Data for Traverse 2002-1

H2=O.K Batt=8.0 Leak Test=O.K Flow=O.K						
Sample #0 starts at SW corner of County Rd. 142 and Arden						
Sample #	distance (m)	distance (ft)	bckgrd	peak	net	comments
0a	0	0	6.6	10.5	3.9	
0b	0	0	6.6	9.6	3	
1	10	32.18	6.6	13.5	6.9	
2	20	64.36	6.6	14.8	8.2	
3	30	96.54	6.6	10.1	3.5	
4	40	128.72	6.6	16.1	9.5	
5	50	160.9	6.6	9.9	3.3	
6	60	193.08	6.6	8.9	2.3	
7	70	225.26	6.6	14.7	8.1	
8	80	257.44	6.6	8.9	2.3	
9	90	289.62	6.6	9.4	2.8	
10a	100	321.8	6.6	14	7.4	
10b	100	321.8	6.6	12.1	5.5	
11	110	353.98	6.6	9.7	3.1	
12	120	386.16	6.6	11.1	4.5	
13	130	418.34	6.6	40.1	33.5	Kept
14	140	450.52	6.6	36.9	30.3	Kept
15	150	482.7	0	0	0	no bridge sample
16	160	514.88	7.2	12.3	5.1	not taken
17	170	547.06	7.2	15.7	8.5	
18	180	579.24	7.2	19	11.8	Kept
19	190	611.42	7.2	16	8.8	
20a	200	643.6	7.2	10.6	3.4	
20b	200	643.6	7.2	13.1	5.9	
21	210	675.78	6.9	11.6	4.7	
22	220	707.96	6.9	15.9	9	
23	230	740.14	6.9	12.7	5.8	
24	240	772.32	6.9	11.6	4.7	
25	250	804.5	6.9	11.8	4.9	
26	260	836.68	6.9	25.7	18.8	Kept
27	270	868.86	6.9	11.1	4.2	
28	280	901.04	6.9	12	5.1	
29	290	933.22	7.4	14.6	7.2	
30a	300	965.4	7.4	11.5	4.1	
30b	300	965.4	7.4	12	4.6	
31	310	997.58	7.4	17	9.6	
32	320	1029.76	7.4	16.7	9.3	
33	330	1061.94	7.4	11.5	4.1	
34	340	1094.12	7.4	7.7	0.3	
35	350	1126.3	7.4	14.9	7.5	
36	360	1158.48	7.3	8.5	1.2	
37	370	1190.66	7.3	7.3	0	
38	380	1222.84	7.3	7.4	0.1	
39	390	1255.02	7.3	7.9	0.6	
40a	400	1287.2	7.3	7.9	0.6	
40b	400	1287.2	7.2	13	5.8	
41	410	1319.38	7.2	8.2	1	
42	420	1351.56	7.2	8	0.8	
43	430	1383.74	7.2	7.4	0.2	
44	440	1415.92	7.2	8.4	1.2	

Soilgas Data for Traverse 2002-1

45	450	1448.1	7.5	7.5	0	
46	460	1480.28	7.5	7.5	0	
47	470	1512.46	7.5	7.5	0	
48	480	1544.64	7.4	8.1	0.7	
49	490	1576.82	7.4	7.4	0	
50a	500	1609	7.4	8	0.6	
50b	500	1609	7.4	9.3	1.9	
51	510	1641.18	7.4	10.4	3	
52	520	1673.36	7.4	7.4	0	
53	530	1705.54	6.9	7.1	0.2	
54	540	1737.72	6.9	7.1	0.2	
55	550	1769.9	6.9	7.9	1	
56	560	1802.08	6.9	8	1.1	
57	570	1834.26	6.9	7.3	0.4	
58	580	1866.44	6.9	7.6	0.7	
59	590	1898.62	6.9	9	2.1	
60a	600	1930.8	6.9	9.3	2.4	
60b	600	1930.8	6.9	10.9	4	
61	610	1962.98	6.9	7.3	0.4	
62	620	1995.16	6.9	10	3.1	
63	630	2027.34	7.2	7.7	0.5	
64	640	2059.52	7.2	7.7	0.5	
65	650	2091.7	7.2	18.3	11.1	Kept
66	660	2123.88	7.2	7.8	0.6	
67	670	2156.06	7.2	13	5.8	
68	680	2188.24	7.2	7.9	0.7	
69	690	2220.42	7.2	7.3	0.1	
70a	700	2252.6	7.2	7.6	0.4	
70b	700	2252.6	7.2	7.4	0.2	
71	710	2284.78	7	7.6	0.6	
72	720	2316.96	7	7.8	0.8	
73	730	2349.14	7	8.2	1.2	
74	740	2381.32	7	8.2	1.2	
75	750	2413.5	7	7.5	0.5	
76	760	2445.68	7.3	8.1	0.8	
77	770	2477.86	7.3	9.1	1.8	
78	780	2510.04	7.3	7.6	0.3	
79	790	2542.22	7.3	7.3	0	
80a	800	2574.4	7.3	7.7	0.4	
80b	800	2574.4	7.3	7.4	0.1	
81	810	2606.58	7.3	8	0.7	
82	820	2638.76	7.3	7.8	0.5	
83	830	2670.94	7.3	8	0.7	
84	840	2703.12	7.3	7.3	0	
85	850	2735.3	7.4	7.5	0.1	
86	860	2767.48	7.4	7.4	0	
87	870	2799.66	7.4	7.4	0	
88	880	2831.84	7.4	7.4	0	
89	890	2864.02	7.4	24.1	16.7	Kept
90a	900	2896.2	7.3	7.5	0.2	
90b	900	2896.2	7.3	7.7	0.4	
91	910	2928.38	7.3	14.8	7.5	
92	920	2960.56	7.3	8	0.7	
93	930	2992.74	7.3	7.3	0	
94	940	3024.92	7.3	7.5	0.2	
95	950	3057.1	7.3	7.7	0.4	
96	960	3089.28	7.3	9	1.7	

Soilgas Data for Traverse 2002-1

97	970	3121.46	7.3	8.9	1.6	
98	980	3153.64	7.3	9.6	2.3	
99	990	3185.82	7.3	8	0.7	
100a	1000	3218	7.3	16.3	9	
100b	1000	3218	7.3	9.7	2.4	
101	1010	3250.18	7.3	8.4	1.1	
102	1020	3282.36	7.3	7.3	0	
103	1030	3314.54	7.2	7.9	0.7	
104	1040	3346.72	7.2	7.7	0.5	
105	1050	3378.9	7.2	10.3	3.1	
106	1060	3411.08	7.2	7.5	0.3	
107	1070	3443.26	7.7	10.9	3.2	
108	1080	3475.44	7.7	9.5	1.8	
109	1090	3507.62	7.7	8.4	0.7	
110a	1100	3539.8	7.5	8.9	1.4	
110b	1100	3539.8	7.5	7.5	0	
111	1110	3571.98	7.5	9.4	1.9	
112	1120	3604.16	7.5	16.5	9	
113	1130	3636.34	7.5	7.5	0	
114	1140	3668.52	7.4	7.7	0.3	
115	1150	3700.7	7.4	22.3	14.9	Kept
116	1160	3732.88	7.4	8.2	0.8	
117	1170	3765.06	7.7	8.5	0.8	
118	1180	3797.24	7.7	7.9	0.2	
119	1190	3829.42	7.7	9.3	1.6	
120a	1200	3861.6	7.7	8.4	0.7	
120b	1200	3861.6	7.7	8.2	0.5	
121	1210	3893.78	7.4	9.1	1.7	
122	1220	3925.96	7.4	9.5	2.1	
123	1230	3958.14	7.4	7.4	0	
124	1240	3990.32	7.4	7.6	0.2	
125	1250	4022.5	7.4	7.4	0	
126	1260	4054.68	7.4	7.6	0.2	
127	1270	4086.86	7.2	7.2	0	
128	1280	4119.04	7.2	8.8	1.6	
129	1290	4151.22	7.2	7.6	0.4	
130a	1300	4183.4	7.2	7.5	0.3	
130b	1300	4183.4	7.2	8.2	1	
131	1310	4215.58	7.4	9.1	1.7	
132	1320	4247.76	7.4	8	0.6	
133	1330	4279.94	7.4	8.2	0.8	
134	1340	4312.12	7.4	7.4	0	
135	1350	4344.3	7.5	8.9	1.4	
136	1360	4376.48	7.5	7.8	0.3	
137	1370	4408.66	7.5	7.9	0.4	
138	1380	4440.84	7.4	7.5	0.1	
139	1390	4473.02	7.4	8.3	0.9	
140a	1400	4505.2	7.4	9.9	2.5	
140b	1400	4505.2	7.4	8.6	1.2	
141	1410	4537.38	7.4	9.2	1.8	
142	1420	4569.56	7.4	9.6	2.2	
143	1430	4601.74	7.4	10.9	3.5	
144	1440	4633.92	0	0	0	in road sample
145	1450	4666.1	7.4	25.4	18	not taken
146	1460	4698.28	7.4	12	4.6	
147	1470	4730.46	7.4	10	2.6	
148	1480	4762.64	7.7	31.6	23.9	Kept

Soilgas Data for Traverse 2002-1

149	1490	4794.82	7.7	13.5	5.8	
150a	1500	4827	7.7	11.7	4	
150b	1500	4827	7.7	12.5	4.8	
151	1510	4859.18	7.7	30.9	23.2	Kept
152	1520	4891.36	7.3	9.8	2.5	
153	1530	4923.54	7.3	11.2	3.9	
154	1540	4955.72	7.3	13	5.7	
155	1550	4987.9	7.3	16.8	9.5	
156	1560	5020.08	7.3	15.9	8.6	
157	1570	5052.26	7.3	17	9.7	
158	1580	5084.44	7.3	17.4	10.1	
159	1590	5116.62	8	25.3	17.3	Kept
160a	1600	5148.8	8	14.3	6.3	
160b	1600	5148.8	8	18.3	10.3	
161	1610	5180.98	8	21.8	13.8	Kept
162	1620	5213.16	8	27.7	19.7	Kept
163	1630	5245.34	7.9	15.2	7.3	
164	1640	5277.52	7.9	14.2	6.3	
165	1650	5309.7	7.9	19.7	11.8	
166	1660	5341.88	7.9	14.3	6.4	
167	1670	5374.06	7.9	16.2	8.3	
168	1680	5406.24	7.9	20.7	12.8	Kept
169	1690	5438.42	7.9	20.6	12.7	
170a	1700	5470.6	7.9	23.2	15.3	Kept
170b	1700	5470.6	7.8	15.5	7.7	
171	1710	5502.78	7.8	14.8	7	
172	1720	5534.96	7.8	14	6.2	
173	1730	5567.14	7.8	13.4	5.6	
174	1740	5599.32	7.8	32.5	24.7	Kept
175	1750	5631.5	7.8	18	10.2	
176	1760	5663.68	7.8	11.4	3.6	
177	1770	5695.86	7.9	12.5	4.6	
178	1780	5728.04	7.9	17.9	10	
179	1790	5760.22	7.9	16.2	8.3	
180a	1800	5792.4	7.9	13.2	5.3	
180b	1800	5792.4	7.9	14.2	6.3	
181	1810	5824.58	7.9	12.3	4.4	
182	1820	5856.76	7.9	13.1	5.2	
183	1830	5888.94	7.7	13.1	5.4	
184	1840	5921.12	7.7	19.1	11.4	
185	1850	5953.3	7.5	12.6	5.1	
186	1860	5985.48	7.5	15.4	7.9	
187	1870	6017.66	7.5	7.5	0	
188	1880	6049.84	7.5	15.5	8	
189	1890	6082.02	7.5	13.1	5.6	
190a	1900	6114.2	7.5	10.2	2.7	
190b	1900	6114.2	7.5	13.3	5.8	
191	1910	6146.38	7.5	14	6.5	Kept
192	1920	6178.56	7.5	33.1	25.6	Kept
193	1930	6210.74	7.6	7.7	0.1	on bridge sample
194	1940	6242.92	7.6	11.5	3.9	not taken
195	1950	6275.1	7.6	12.4	4.8	
196	1960	6307.28	7.6	11.5	3.9	
197	1970	6339.46	7.6	14.3	6.7	
198	1980	6371.64	7.6	8.6	1	
199	1990	6403.82	7.6	14	6.4	
200a	2000	6436	7.6	7.6	0	

Soilgas Data for Traverse 2002-1

200b	2000	6436	7.2	7.2	0	
201	2010	6468.18	7.2	9.9	2.7	
202	2020	6500.36	7.2	20.1	12.9	
203	2030	6532.54	7.2	13.9	6.7	
204	2040	6564.72	7.2	13.8	6.6	
205	2050	6596.9	7.1	11.4	4.3	
206	2060	6629.08	7.1	15.8	8.7	
207	2070	6661.26	7.1	13.3	6.2	
208	2080	6693.44	7.4	14	6.6	
209	2090	6725.62	7.4	9.4	2	
210a	2100	6757.8	7.4	14.6	7.2	
210b	2100	6757.8	7.4	9.5	2.1	
211	2110	6789.98	7.4	14.2	6.8	
212	2120	6822.16	7.4	11.9	4.5	
213	2130	6854.34	7.4	16.3	8.9	
214	2140	6886.52	7.4	22.1	14.7	Kept
215	2150	6918.7	7.4	7.4	0	
216	2160	6950.88	7.4	10.5	3.1	
217	2170	6983.06	7.4	9.3	1.9	
218	2180	7015.24	7.4	13.7	6.3	
219	2190	7047.42	7.4	10.6	3.2	
220a	2200	7079.6	7.4	14.7	7.3	
220b	2200	7079.6	7.4	12.5	5.1	
221	2210	7111.78	7.4	8	0.6	
222	2220	7143.96	7.4	13	5.6	
223	2230	7176.14	7.4	11.1	3.7	
224	2240	7208.32	7.2	11.7	4.5	
225	2250	7240.5	7.2	12	4.8	
226	2260	7272.68	7.2	30.2	23	Kept
227	2270	7304.86	7.2	24.9	17.7	Kept
228	2280	7337.04	7.2	23.7	16.5	Kept
229	2290	7369.22	7.2	9.5	2.3	
230a	2300	7401.4	5	5	0	
230b	2300	7401.4	7.7	8.3	0.6	
231	2310	7433.58	7.7	9	1.3	
232	2320	7465.76	7.7	27.8	20.1	Kept
233	2330	7497.94	7.7	8.2	0.5	
234	2340	7530.12	7.7	9.3	1.6	
235	2350	7562.3	7.7	7.7	0	
236	2360	7594.48	7.7	14.2	6.5	
237	2370	7626.66	7.8	20.5	12.7	Kept
238	2380	7658.84	7.8	11.1	3.3	
239	2390	7691.02	7.8	11.9	4.1	
240a	2400	7723.2	7.8	8.8	1	
240b	2400	7723.2	7.8	8	0.2	
241	2410	7755.38	7.8	8.3	0.5	
242	2420	7787.56	8	8.6	0.6	
243	2430	7819.74	8	21.3	13.3	Kept
244	2440	7851.92	8	9.1	1.1	
245	2450	7884.1	8	17.1	9.1	
246	2460	7916.28	7.4	9.2	1.8	
247	2470	7948.46	7.4	35.7	28.3	Kept
248	2480	7980.64	7.4	18.5	11.1	
249	2490	8012.82	7.4	20.5	13.1	Kept
250a	2500	8045	7.4	15	7.6	
250b	2500	8045	7.9	11.1	3.2	
251	2510	8077.18	7.9	15.5	7.6	

Soilgas Data for Traverse 2002-1

252	2520	8109.36	7.9	28.6	20.7	Kept
253	2530	8141.54	7.9	12.6	4.7	
254	2540	8173.72	7.8	15.4	7.6	
255	2550	8205.9	7.8	10.5	2.7	
256	2560	8238.08	7.8	12.2	4.4	
257	2570	8270.26	7.9	23.1	15.2	Kept
258	2580	8302.44	7.9	12.2	4.3	
259	2590	8334.62	4.2	4.2	0	
260a	2600	8366.8	7	10.4	3.4	
260b	2600	8366.8	7	16.8	9.8	
261	2610	8398.98	7	23.8	16.8	Kept
262	2620	8431.16	7	18	11	
263	2630	8463.34	7.6	12.7	5.1	
264	2640	8495.52	7.6	9.2	1.6	
265	2650	8527.7	7.6	12.2	4.6	
266	2660	8559.88	7.6	15.3	7.7	
267	2670	8592.06	7.6	11.6	4	
268	2680	8624.24	7.6	11.5	3.9	
269	2690	8656.42	7.6	18.5	10.9	
270a	2700	8688.6	7.6	13.1	5.5	
270b	2700	8688.6	7.6	8	0.4	
271	2710	8720.78	7.5	14.8	7.3	
272	2720	8752.96	7.5	13.7	6.2	
273	2730	8785.14	7.5	14.1	6.6	
274	2740	8817.32	7.5	13.1	5.6	
275	2750	8849.5	7.8	8.9	1.1	
276	2760	8881.68	7.8	13.4	5.6	
277	2770	8913.86	7.7	9.5	1.8	
278	2780	8946.04	7.7	19.1	11.4	
279	2790	8978.22	7.7	20.5	12.8	
280a	2800	9010.4	7.6	9.4	1.8	
280b	2800	9010.4	7.6	10.5	2.9	
281	2810	9042.58	7.6	11.4	3.8	
282	2820	9074.76	8	13.9	5.9	

Last Sample on NW corner of Extension Rd. @ Seneca Rd.

Traverse 2002-4

6/26/2002

Operators; J. Fountain, M. Fountain, T. Nelson, J. Zybal, C. Nochajski, A. Harper

H2=O.K Batt=8.0 Leak Test=O.K Flow=O.K

Sample # 400 starts at southwest corner of Arden and County rd. 142

Sample #	Dist (m)	Dist (ft)	bckgrd	peak	net	comments
400a	0	0	7.3	10.7	3.4	
400b	0	0	7.3	8.8	1.5	
401	10	32.18	7.3	8.6	1.3	
402	20	64.36	7.3	7.3	0	
403	30	96.54	7.2	20.9	13.7	
404	40	128.72	7.2	37.4	30.2	
405	50	160.9	7.2	8.3	1.1	
406	60	193.08	7.2	7.2	0	
407	70	225.26	7.2	9.3	2.1	
408	80	257.44	7.2	7.6	0.4	
409	90	289.62	7.2	8.3	1.1	
410a	100	321.8	7.2	8.6	1.4	

Soilgas Data for Traverse 2002-1

410b	100	321.8	8	8	0
411	110	353.98	8	7.9	8
412	120	386.16	7.9	8.1	0.2
413	130	418.34	7.9	7.9	0
414	140	450.52	7.9	7.9	0
415	150	482.7	7.9	7.9	0
416	160	514.88	7.9	7.9	0
417	170	547.06	7.9	12.2	4.3
418	180	579.24	7.9	9.5	1.6
419	190	611.42	8	8	0
420a	200	643.6	8	8.2	0.2
420b	200	643.6	8	8.3	0.3
421	210	675.78	8	12	4
422	220	707.96	8	27.9	19.9
423	230	740.14	7.9	7.9	0
424	240	772.32	7.9	13.3	5.4
425	250	804.5	7.9	7.9	0
426	260	836.68	7.9	7.9	0
427	270	868.86	7.9	9.4	1.5
428	280	901.04	7.8	8.1	0.3
429	290	933.22	7.8	7.8	0
430a	300	965.4	7.8	7.8	0
430b	300	965.4	7.8	7.8	0
431	310	997.58	7.8	7.8	0
432	320	1029.76	7.2	7.2	0
433	330	1061.94	7.2	13	5.8
434	340	1094.12	7.2	7.5	0.3
435	350	1126.3	7.2	7.1	0
436	360	1158.48	7.2	7.4	0.2
437	370	1190.66	7.2	7.3	0.1
438	380	1222.84	7.8	9.3	1.5
439	390	1255.02	7.8	7.6	0
440a	400	1287.2	7.8	7.2	0
440b	400	1287.2	7.8	7.1	0
441	410	1319.38	7.8	6.4	0
442	420	1351.56	7.8	7.2	0
443	430	1383.74	7.8	8.3	0.5
444	440	1415.92	7.4	9.8	2.4
445	450	1448.1	7.4	8.9	1.5
446	460	1480.28	7.4	14.2	6.8
447	470	1512.46	7.4	7.3	0
448	480	1544.64	7.4	10.4	3
449	490	1576.82	7.5	7.6	0.1
450a	500	1609	7.5	10.5	3
450b	500	1609	7.5	8.1	0.6
451	510	1641.18	7.5	6.8	0
452	520	1673.36	7.4	7.1	0
453	530	1705.54	7.4	6.9	0
454	540	1737.72	7.4	8.5	1.1
455	550	1769.9	7.4	7.9	0.5
456	560	1802.08	7.4	9	1.6
457	570	1834.26	7.4	10.9	3.5
458	580	1866.44	7.4	9.5	2.1
459	590	1898.62	7.4	10.7	3.3
460a	600	1930.8	7.4	10.7	3.3
460b	600	1930.8	7.4	14.4	7
461	610	1962.98	7.3	12.3	5

Soilgas Data for Traverse 2002-1

462	620	1995.16	7.3	10.6	3.3	
463	630	2027.34	7.3	17.1	9.8	
464	640	2059.52	7.3	7.3	0	
465	650	2091.7	7.3	13.7	6.4	
466	660	2123.88	7.3	9.9	2.6	
467	670	2156.06	7.3	15.6	8.3	
468	680	2188.24	7.3	104	96.7	
469	690	2220.42	6.9	6.5	0	thunder storm air charged
470a	700	2252.6	6.9	6.7	0	
470b	700	2252.6	6.6	7.3	0.7	
471	710	2284.78	6.6	9.3	2.7	
472	720	2316.96	6.6	6.6	0	
473	730	2349.14	6.6	4.4	0	
474	740	2381.32	6.6	8.9	2.3	
475	750	2413.5	7	7.3	0.3	
476	760	2445.68	7	8.4	1.4	
477	770	2477.86	7	8.1	1.1	
478	780	2510.04	7	7.2	0.2	
479	790	2542.22	7	14.8	7.8	
480a	800	2574.4	7	9	2	
480b	800	2574.4	7	9	2	
481	810	2606.58	7	11.9	4.9	
482	820	2638.76	6.6	6.9	0.3	
483	830	2670.94	6.6	6.6	0	
484	840	2703.12	6.6	4.8	0	
485	850	2735.3	6.6	10.2	3.6	
486	860	2767.48	6.6	8	1.4	
487	870	2799.66	7	8.4	1.4	
488	880	2831.84	7	6.3	0	
489	890	2864.02	7	14.4	7.4	
490a	900	2896.2	7	14.4	7.4	
490b	900	2896.2	7	23.7	16.7	
491	910	2928.38	7.3	12.9	5.6	
492	920	2960.56	6.6	7.8	1.2	
493	930	2992.74	6.6	7.2	0.6	
494	940	3024.92	6.6	6.7	0.1	
495	950	3057.1	6.4	7.1	0.7	
496	960	3089.28	6.4	6.7	0.3	
497	970	3121.46	6.4	9.6	3.2	
498	980	3153.64	6.4	14.3	7.9	
499	990	3185.82	6.4	6.4	0	
500a	1000	3218	6.5	6.5	0	
500b	1000	3218	6.5	11.4	4.9	
501	1010	3250.18	6.2	6.2	0	
502	1020	3282.36	6.2	10.3	4.1	
503	1030	3314.54	6.2	12.4	6.2	
504	1040	3346.72	6.2	6.7	0.5	
505	1050	3378.9	6.2	8.7	2.5	
506	1060	3411.08	6.2	10.4	4.2	
507	1070	3443.26	6.4	7.8	1.4	
508	1080	3475.44	6.4	8.7	2.3	
509	1090	3507.62	6.4	7.8	1.4	
510a	1100	3539.8	6.4	6.3	0	
510b	1100	3539.8	6.4	8.4	2	
511	1110	3571.98	6.3	8.1	1.8	
512	1120	3604.16	6.3	7	0.7	
513	1130	3636.34	6.4	6.4	0	

Soilgas Data for Traverse 2002-1

514	1140	3668.52	6.4	10.8	4.4	
515	1150	3700.7	6.4	9.5	3.1	
516	1160	3732.88	6.4	6.4	0	
517	1170	3765.06	6.4	6.6	0.2	
518	1180	3797.24	6.4	10.7	4.3	
519	1190	3829.42	6.4	10.1	3.7	
520a	1200	3861.6	6.4	10.6	4.2	
520b	1200	3861.6	6.4	6.4	0	
521	1210	3893.78	6.4	8.9	2.5	
522	1220	3925.96	6.4	10.4	4	
523	1230	3958.14	6.4	6.4	0	
524	1240	3990.32	6.4	12.6	6.2	
525	1250	4022.5	6.4	6.9	0.5	
526	1260	4054.68	6.4	15.7	9.3	
527	1270	4086.86	6.4	13	6.6	
528	1280	4119.04	6.4	6.2	0	
529	1290	4151.22	6.4	6.5	0.1	
530a	1300	4183.4	6.4	6.9	0.5	
530b	1300	4183.4	6.4	11.3	4.9	
531	1310	4215.58	6.4	7.5	1.1	
532	1320	4247.76	6.5	35	28.5	
533	1330	4279.94	6.5	10.7	4.2	
534	1340	4312.12	6.5	10.3	3.8	
535	1350	4344.3	6.5	15.8	9.3	
536	1360	4376.48	6.5	18.2	11.7	
537	1370	4408.66	6.5	11.3	4.8	
538	1380	4440.84	6.5	12.5	6	
539	1390	4473.02	6.5	15.6	9.1	
540a	1400	4505.2	6.5	8.6	2.1	
540b	1400	4505.2	6.5	11.2	4.7	
541	1410	4537.38	6.5	9.5	3	
542	1420	4569.56	6.5	12.4	5.9	
543	1430	4601.74	6.5	10.2	3.7	
544	1440	4633.92	6.5	30.2	23.7	Kept
545	1450	4666.1	6.3	9.4	3.1	
546	1460	4698.28	6.3	0	0	Last sample same location as 2002-2A, corner Arden and covert
Traverse 2002-5						
Operators;J. Fountain, M. Fountain, T. Nelson, J. Zybala, C. Nochajski, A. Harper						
H2=O.K Batt=8.0 Leak Test=O.K Flow=O.K						
Sample 600 at SE corner of intersection county road 142 and county road 143						
Sample #	distance (m)	distance (ft)	bckgd	peak	net	comments
600a	0	0	6.4	9.3	2.9	
600b	0	0	6.4	9.8	3.4	
601	10	32.18	6.4	23.3	16.9	Kept
602	20	64.36	6.4	11.7	5.3	
603	30	96.54	6.4	14.8	8.4	
604	40	128.72	6.4	20.5	14.1	Kept
605	50	160.9	6.4	11.9	5.5	
606	60	193.08	6.5	9.7	3.2	
607	70	225.26	6.5	11.4	4.9	
608	80	257.44	6.5	17.6	11.1	

Soilgas Data for Traverse 2002-1

609	90	289.62	6.5	11.7	5.2	
610a	100	321.8	6.5	11.1	4.6	
610b	100	321.8	6.5	8.6	2.1	
611	110	353.98	6.5	22.8	16.3	Kept
612	120	386.16	6.5	11.3	4.8	
613	130	418.34	6.6	11.9	5.3	
614	140	450.52	6.6	13.8	7.2	
615	150	482.7	6.6	20.7	14.1	Kept
616	160	514.88	6.6	7	0.4	
617	170	547.06	6.6	9.3	2.7	
618	180	579.24	6.6	13.8	7.2	
619	190	611.42	6.6	9.2	2.6	
620a	200	643.6	6.5	10.3	3.8	
620b	200	643.6	6.5	9.8	3.3	
621	210	675.78	6.5	10.3	3.8	
622	220	707.96	6.5	65.5	59	Kept
623	230	740.14	6.5	8.2	1.7	
624	240	772.32	6.5	8.9	2.4	
625	250	804.5	6.5	9.4	2.9	
626	260	836.68	6.5	11.4	4.9	
627	270	868.86	6.5	18.1	11.6	
628	280	901.04	6.5	17.7	11.2	
629	290	933.22	6.2	15.6	9.4	
630a	300	965.4	6.2	9.2	3	
630b	300	965.4	6.2	8	1.8	
631	310	997.58	6.2	18.4	12.2	Kept
632	320	1029.76	6.2	9.4	3.2	
633	330	1061.94	6.2	12.8	6.6	
634	340	1094.12	6.8	29.3	22.5	Kept
635	350	1126.3	6.8	10.4	3.6	
636	360	1158.48	6.8	11.1	4.3	
637	370	1190.66	6.8	8.2	1.4	
638	380	1222.84	6.8	9.1	2.3	
639	390	1255.02	6.8	13	6.2	
640a	400	1287.2	6.6	7.3	0.7	
640b	400	1287.2	6.6	8	1.4	
641	410	1319.38	6.6	13.4	6.8	
642	420	1351.56	6.6	27.3	20.7	Kept
643	430	1383.74	6.3	11.6	5.3	
644	440	1415.92	6.4	13.3	6.9	
645	450	1448.1	6.4	12.3	5.9	
646	460	1480.28	6.4	7.4	1	
647	470	1512.46	6.4	8.2	1.8	
648	480	1544.64	6.4	17.7	11.3	
649	490	1576.82	6.4	8.4	2	
650a	500	1609	6.4	11.2	4.8	
650b	500	1609	6.4	8.9	2.5	
651	510	1641.18	6.4	10.2	3.8	
652	520	1673.36	6.4	11.1	4.7	
653	530	1705.54	6.4	8.3	1.9	
654	540	1737.72	6.4	7.5	1.1	
655	550	1769.9	6.4	10.2	3.8	
656	560	1802.08	6.4	17.3	10.9	
657	570	1834.26	6.4	16.6	10.2	
658	580	1866.44	6.6	9.8	3.2	
659	590	1898.62	6.6	7.8	1.2	
660a	600	1930.8	6.6	9.3	2.7	

Soilgas Data for Traverse 2002-1

660b	600	1930.8	6.4	9.3	2.9	
661	610	1962.98	6.4	9.3	2.9	
662	620	1995.16	6.4	19.9	13.5	Kept
663	630	2027.34	6.4	12.5	6.1	
664	640	2059.52	6.4	9.3	2.9	
665	650	2091.7	6.4	8.2	1.8	
666	660	2123.88	6.4	11.2	4.8	
667	670	2156.06	6.5	9	2.5	
668	680	2188.24	6.5	9.2	2.7	
669	690	2220.42	6.5	7.7	1.2	
670a	700	2252.6	6.4	7.7	1.3	
620b	700	2252.6	6.4	7.8	1.4	
671	710	2284.78	6.4	8.5	2.1	
672	720	2316.96	6.4	8.6	2.2	
673	730	2349.14	6.4	7.5	1.1	
674	740	2381.32	6.4	9.3	2.9	
675	750	2413.5	6.5	9.6	3.1	
676	760	2445.68	6.5	9.5	3	
677	770	2477.86	6.5	10.9	4.4	
678	780	2510.04	6.5	8	1.5	
679	790	2542.22	6.5	8.2	1.7	
680a	800	2574.4	6.5	32.4	25.9	
680b	800	2574.4	6.5	23.8	17.3	
681	810	2606.58	6.5	9.4	2.9	
682	820	2638.76	6.5	21.1	14.6	
683	830	2670.94	6.5	24.1	17.6	
684	840	2703.12	6.5	30.6	24.1	
685	850	2735.3	6.5	12.2	5.7	
686	860	2767.48	6.5	44.8	38.3	
687	870	2799.66	6.5	0	0	Bridge, No Sample
688	880	2831.84	6.5	0	0	Bridge, No Sample
689	890	2864.02	6.4	48.5	42.1	
690a	900	2896.2	6.4	28.3	21.9	
690b	900	2896.2	6.4	62.5	56.1	
691	910	2928.38	6.4	45.8	39.4	
692	920	2960.56	6.4	55.5	49.1	
693	930	2992.74	6.4	30.5	24.1	
694	940	3024.92	6.4	14.9	8.5	
695	950	3057.1	6.4	13.9	7.5	
696	960	3089.28	6.4	10	3.6	
697	970	3121.46	6.5	8.6	2.1	
698	980	3153.64	6.5	12.4	5.9	
699	990	3185.82	6.5	7.5	1	
700a	1000	3218	6.5	0	0	No Sample
700b	1000	3218	6.5	10.6	4.1	
701	1010	3250.18	6.5	7.7	1.2	
702	1020	3282.36	6.5	7.3	0.8	
703	1030	3314.54	6.5	19.8	13.3	
704	1040	3346.72	6.5	6.5	0	
705	1050	3378.9	6.5	16.8	10.3	
706	1060	3411.08	6.5	8.1	1.6	
707	1070	3443.26	6.6	6.6	0	
708	1080	3475.44	6.6	19.8	13.2	
709	1090	3507.62	6.6	9.8	3.2	
710a	1100	3539.8	6.6	10.8	4.2	
710b	1100	3539.8	6.3	10.4	4.1	
711	1110	3571.98	6.3	10.5	4.2	

Soilgas Data for Traverse 2002-1

712	1120	3604.16	6.3	12.7	6.4	
713	1130	3636.34	6.4	20.9	14.5	
714	1140	3668.52	6.4	22.2	15.8	
715	1150	3700.7	6.4	16.6	10.2	
716	1160	3732.88	6.4	16.2	9.8	
717	1170	3765.06	6.4	9.1	2.7	
718	1180	3797.24	6.4	7.6	1.2	
719	1190	3829.42	6.4	7.3	0.9	
720a	1200	3861.6	6.4	23.4	17	
720b	1200	3861.6	6.4	9.4	3	
721	1210	3893.78	6.4	13.8	7.4	
722	1220	3925.96	6.4	11	4.6	
723	1230	3958.14	6.4	16.6	10.2	
724	1240	3990.32	6.4	19.2	12.8	
725	1250	4022.5	6.4	14.5	8.1	
726	1260	4054.68	6.4	10	3.6	
727	1270	4086.86	6.4	9.6	3.2	
728	1280	4119.04	6.4	9.8	3.4	
729	1290	4151.22	6.4	12.2	5.8	
730a	1300	4183.4	6.5	6.5	0	
730b	1300	4183.4	6.5	7.5	1	
731	1310	4215.58	6.5	8.5	2	
732	1320	4247.76	6.4	14.6	8.2	
733	1330	4279.94	6.4	18.9	12.5	
734	1340	4312.12	6.4	10.5	4.1	
735	1350	4344.3	6.4	7.7	1.3	
736	1360	4376.48	6.4	11.5	5.1	
737	1370	4408.66	6.4	27.6	21.2	
738	1380	4440.84	6.4	11.2	4.8	
739	1390	4473.02	6.4	22.8	16.4	
740a	1400	4505.2	6.4	6.9	0.5	
740b	1400	4505.2	6.4	7.3	0.9	
741	1410	4537.38	6.4	11.5	5.1	
742	1420	4569.56	6.4	14.3	7.9	last sample

Traverse 2002-6

6/27/2002

Operators;J. Fountain, M. Fountain, T. Nelson, J. Zybala, C. Nochajski, A. Harper

H2=O.K Batt=8.0 Leak Test=O.K Flow=O.K

sample 800 starts at southeast corner of Covert, Arden, and Six Corners

Sample #	Distance (m)	Distance (ft)	bckgrd	peak	net	comments
800a	0	0	6.1	7.5	1.4	Lots of Trouble with
800b	0	0	6.1	8.2	2.1	samples plugging
801	10	32.18	6.1	9.2	3.1	80% saturation at
802	20	64.36	6.2	8.5	2.3	depth ~14"
803	30	96.54	6.2	8.2	2	Data is suspect
804	40	128.72	6.2	17.4	11.2	Kept
805	50	160.9	6.2	15	8.8	
806	60	193.08	6.2	6.2	0	
807	70	225.26	6.2	10.3	4.1	
808	80	257.44	6.2	9	2.8	
809	90	289.62	6.2	6.2	0	
810a	100	321.8	6.2	7.7	1.5	

Soilgas Data for Traverse 2002-1

810b	100	321.8	6.2	6.4	0.2	
811	110	353.98	6.2	6.2	0	
812	120	386.16	6.2	7	0.8	
813	130	418.34	6.2	6.2	0	
814	140	450.52	6.2	9.9	3.7	
815	150	482.7	6.2	9.8	3.6	
816	160	514.88	6.2	15	8.8	
817	170	547.06	6.2	12.2	6	
818	180	579.24	6.2	8.9	2.7	
819	190	611.42	6.2	18.8	12.6	Kept
820a	200	643.6	6.3	18.6	12.3	Kept
820b	200	643.6	6.3	14.2	7.9	
821	210	675.78	6.3	14.4	8.1	
822	220	707.96	6.3	8.2	1.9	
823	230	740.14	6.4	15.1	8.7	
824	240	772.32	6.4	8.5	2.1	
825	250	804.5	6.4	7.1	0.7	
826	260	836.68	6.4	12.5	6.1	
827	270	868.86	6.4	11.2	4.8	
828	280	901.04	6.4	8	1.6	
829	290	933.22	6.4	44.8	38.4	Kept
830a	300	965.4	6.4	9.9	3.5	
830b	300	965.4	6.4	12	5.6	
831	310	997.58	6.4	9.7	3.3	
832	320	1029.76	6.4	7.3	0.9	
833	330	1061.94	6.4	17.6	11.2	
834	340	1094.12	6.4	12.1	5.7	
835	350	1126.3	6.4	9.2	2.8	
836	360	1158.48	6.4	8.4	2	
837	370	1190.66	6.3	13.3	7	
838	380	1222.84	6.3	10.3	4	
839	390	1255.02	6.3	11.6	5.3	
840a	400	1287.2	6.3	6.3	0	
840b	400	1287.2	6.3	7.5	1.2	
841	410	1319.38	6.3	8.3	2	
842	420	1351.56	6.3	10.2	3.9	
843	430	1383.74	6.4	7.5	1.1	
844	440	1415.92	6.5	14.2	7.7	
845	450	1448.1	6.5	14.6	8.1	
846	460	1480.28	6.5	7.7	1.2	
847	470	1512.46	6.5	7.3	0.8	
848	480	1544.64	6.6	10.8	4.2	
849	490	1576.82	6.6	6.8	0.2	
850a	500	1609	6.6	7.3	0.7	
850b	500	1609	6.6	9.1	2.5	
851	510	1641.18	6.6	13.7	7.1	
852	520	1673.36	6.6	23.5	16.9	Kept
853	530	1705.54	6.4	12.3	5.9	
854	540	1737.72	6.4	6.4	0	
855	550	1769.9	6.4	6.8	0.4	
856	560	1802.08	6.4	12.4	6	
857	570	1834.26	6.4	6.5	0.1	
858	580	1866.44	6.4	11.8	5.4	
859	590	1898.62	6.5	8	1.5	
860a	600	1930.8	6.5	9.8	3.3	
860b	600	1930.8	6.5	50	43.5	Kept
861	610	1962.98	6.5	12.2	5.7	

Soilgas Data for Traverse 2002-1

862	620	1995.16	6.5	129	122.5	
863	630	2027.34	6.5	400	393.5	Kept
864	640	2059.52	6.5	8.9	2.4	
865	650	2091.7	7	7.5	0.5	
866	660	2123.88	7	9.8	2.8	
867	670	2156.06	7	8.7	1.7	
868	680	2188.24	7	14.2	7.2	
869	690	2220.42	7	12.4	5.4	
870a	700	2252.6	6.4	13.2	6.8	
870b	700	2252.6	6.4	11.9	5.5	
871	710	2284.78	6.4	13.7	7.3	
872	720	2316.96	6.4	14.8	8.4	
873	730	2349.14	6.9	25.1	18.2	Kept
874	740	2381.32	6.9	17.2	10.3	
875	750	2413.5	6.9	13.9	7	
876	760	2445.68	6.9	14.4	7.5	
877	770	2477.86	7.1	12.1	5	
878	780	2510.04	7.1	8.5	1.4	
879	790	2542.22	7.1	122.8	115.7	Kept
880a	800	2574.4	7.1	30.4	23.3	Kept
880b	800	2574.4	7.1	11.2	4.1	
881	810	2606.58	7.1	26.1	19	Kept
882	820	2638.76	7.1	18.2	11.1	
883	830	2670.94	6.5	26.8	20.3	Kept
884	840	2703.12	6.5	12.4	5.9	
885	850	2735.3	6.5	10.5	4	
886	860	2767.48	6.5	14.3	7.8	
887	870	2799.66	6.9	8.5	1.6	
888	880	2831.84	6.9	9.4	2.5	
889	890	2864.02	6.9	9.8	2.9	
890a	900	2896.2	7.7	8.6	0.9	
890b	900	2896.2	7.7	11.6	3.9	
891	910	2928.38	7.7	29.9	22.2	Kept
892	920	2960.56	7.7	7.7	0	
893	930	2992.74	7.7	8.2	0.5	
894	940	3024.92	7.7	7.8	0.1	
895	950	3057.1	7.7	8.6	0.9	
896	960	3089.28	7.7	10	2.3	
897	970	3121.46	7.7	13	5.3	
898	980	3153.64	7.7	9.6	1.9	
899	990	3185.82	7.7	12.1	4.4	
900a	1000	3218	7.6	17.8	10.2	
900b	1000	3218	7.6	12.7	5.1	
901	1010	3250.18	7.6	7.7	0.1	
902	1020	3282.36	7.6	8.8	1.2	
903	1030	3314.54	7.6	9.8	2.2	
904	1040	3346.72	7.6	7.6	0	
905	1050	3378.9	7.6	9.3	1.7	
906	1060	3411.08	7.6	9	1.4	
907	1070	3443.26	7.6	7.6	0	
908	1080	3475.44	7.6	10	2.4	
909	1090	3507.62	7.6	10.9	3.3	
910a	1100	3539.8	7.6	10	2.4	
910b	1100	3539.8	7.6	14	6.4	
911	1110	3571.98	7.6	12.2	4.6	
912	1120	3604.16	7.7	15.4	7.7	
913	1130	3636.34	7.7	14.1	6.4	

Soilgas Data for Traverse 2002-1

914	1140	3668.52	7.7	14.2	6.5	
915	1150	3700.7	7.7	12.8	5.1	
916	1160	3732.88	7.7	18.4	10.7	
917	1170	3765.06	7.7	9.6	1.9	
918	1180	3797.24	7.7	9.9	2.2	
919	1190	3829.42	7.8	14.4	6.6	
920a	1200	3861.6	7.8	11	3.2	
920b	1200	3861.6	7.8	9.7	1.9	
921	1210	3893.78	7.8	14.2	6.4	
922	1220	3925.96	7.8	20.6	12.8	Kept
923	1230	3958.14	7.8	12	4.2	
924	1240	3990.32	7.8	7.8	0	
925	1250	4022.5	7.8	24.3	16.5	
926	1260	4054.68	7.8	11.1	3.3	
927	1270	4086.86	7.8	8.2	0.4	
928	1280	4119.04	7.7	18	10.3	
929	1290	4151.22	7.7	14.7	7	
930a	1300	4183.4	7.7	11	3.3	
930b	1300	4183.4	7.7	10.5	2.8	
931	1310	4215.58	7.9	8.6	0.7	
932	1320	4247.76	7.9	7.9	0	
933	1330	4279.94	7.9	15.6	7.7	
934	1340	4312.12	7.9	28.3	20.4	
935	1350	4344.3	7.9	17	9.1	
936	1360	4376.48	7.9	9.1	1.2	
Last sample at Rd. North of Covert and Ardin Rd.						
Traverse 2002-7				7/9/2002		
Operators;J. Fountain, M. Fountain, T. Nelson, J. Zybala, C. Nochajski, A. Harper						
H2=O.K Batt=8.0 Leak Test=O.K Flow=O.K						
First Sample NE corner of Seneca Rd. and Twonline Rd. also called Rock River Rd.						
Sample #	Distance (m)	Distance (ft.)	Background	Peak	net	comments
0a	0	0	6.5	7.5	1	Soil Moisture 40%
0b	0	0	6.5	7.7	1.2	Very Dry but rained
1	10	32.81	6.5	8.5	2	as we started
2	20	65.62	6.5	9.6	3.1	
3	30	98.43	6.5	13.2	6.7	
4	40	131.24	6.6	13	6.4	
5	50	164.05	6.6	9.7	3.1	
6	60	196.86	6.6	14.5	7.9	Kept
7	70	229.67	6.6	8.6	2	
8	80	262.48	6.6	8.2	1.6	
9	90	295.29	6.6	6.7	0.1	
10a	100	328.1	6.6	7.1	0.5	
10b	100	328.1	6.6	6.8	0.2	
11	110	360.91	6.9	6.9	0	
12	120	393.72	6.9	8.4	1.5	
13	130	426.53	6.9	8.8	1.9	
14	140	459.34	6.9	9.8	2.9	
15	150	492.15	6.9	7.4	0.5	
16	160	524.96	6.9	9.7	2.8	
17	170	557.77	6.9	7.9	1	
18	180	590.58	6.9	7.9	1	

Soilgas Data for Traverse 2002-1

19	190	623.39	6.9	12.4	5.5	
20a	200	656.2	7	10.2	3.2	
20b	200	656.2	7	7.6	0.6	
21	210	689.01	7	10	3	
22	220	721.82	6.9	6.9	0	
23	230	754.63	6.9	7.1	0.2	
24	240	787.44	6.9	7.3	0.4	
25	250	820.25	6.8	7.4	0.6	
26	260	853.06	6.8	7.3	0.5	
27	270	885.87	6.8	9.6	2.8	
28	280	918.68	7	10.7	3.7	
29	290	951.49	7	9.5	2.5	
30a	300	984.3	7	8.6	1.6	
30b	300	984.3	7	12.7	5.7	
31	310	1017.11	7	11.5	4.5	
32	320	1049.92	7	8.7	1.7	
33	330	1082.73	7	8.4	1.4	
34	340	1115.54	6.3	11.3	5	
35	350	1148.35	7	8.4	1.4	
36	360	1181.16	7	9	2	
37	370	1213.97	7	12.1	5.1	
38	380	1246.78	7	10.8	3.8	
39	390	1279.59	7	9.5	2.5	
40a	400	1312.4	7.3	12.4	5.1	
40b	400	1312.4	7.3	11	3.7	
41	410	1345.21	7.3	8.5	1.2	
42	420	1378.02	7.3	12.3	5	
43	430	1410.83	7.2	12.2	5	
44	440	1443.64	7.2	8.1	0.9	
45	450	1476.45	7.2	7.8	0.6	
46	460	1509.26	7.2	8	0.8	
47	470	1542.07	7.2	11.1	3.9	
48	480	1574.88	7.2	9.2	2	
49	490	1607.69	7.2	9.8	2.6	
50a	500	1640.5	7.2	7	7	
50b	500	1640.5	7.2	9.4	2.2	
51	510	1673.31	7.2	8.3	1.1	
52	520	1706.12	7.2	15.3	8.1	Kept
53	530	1738.93	7.2	10.3	3.1	
54	540	1771.74	6.8	10.7	3.9	
55	550	1804.55	6.8	12	5.2	
56	560	1837.36	6.8	6.9	0.1	
57	570	1870.17	6.8	8.3	1.5	
58	580	1902.98	7.2	12.1	4.9	
59	590	1935.79	7.2	7.8	0.6	
60a	600	1968.6	6.7	9.8	3.1	
60b	600	1968.6	6.7	9.4	2.7	
61	610	2001.41	6.7	10.4	3.7	
62	620	2034.22	6.7	7.7	1	
63	630	2067.03	6.7	3.9	3.9	flame out
64	640	2099.84	6.7	13.4	6.7	
65	650	2132.65	6.7	11.6	4.9	
66	660	2165.46	6.7	11	4.3	
67	670	2198.27	6.7	15.5	8.8	
68	680	2231.08	6.7	11.7	5	
69	690	2263.89	6.7	9.8	3.1	
70a	700	2296.7	6.7	14.3	7.6	

Soilgas Data for Traverse 2002-1

70b	700	2296.7	6.7	11.2	4.5	
71	710	2329.51	6.7	16.1	9.4	
72	720	2362.32	7.2	10.6	3.4	
73	730	2395.13	7.2	11.6	4.4	
74	740	2427.94	7.2	9.9	2.7	
75	750	2460.75	7.2	7.9	0.7	
76	760	2493.56	7.2	11.8	4.6	
77	770	2526.37	7.2	11.6	4.4	
78	780	2559.18	7.2	14	6.8	
79	790	2591.99	7	14.4	7.4	
80a	800	2624.8	7	11.1	4.1	
80b	800	2624.8	7	9.3	2.3	
81	810	2657.61	7	10.7	3.7	
82	820	2690.42	7	11.9	4.9	
83	830	2723.23	7	14.6	7.6	
84	840	2756.04	7	12.4	5.4	
85	850	2788.85	7	21.2	14.2	
86	860	2821.66	7	21	14	
87	870	2854.47	7	14.2	7.2	
88	880	2887.28	7	18.2	11.2	Kept
89	890	2920.09	6.8	11	4.2	
90a	900	2952.9	6.8	10.3	3.5	
90b	900	2952.9	6.8	8	1.2	
91	910	2985.71	6.8	11.7	4.9	
92	920	3018.52	6.8	13.6	6.8	
93	930	3051.33	6.8	8	1.2	
94	940	3084.14	7	10.6	3.6	
95	950	3116.95	7	9.6	2.6	
96	960	3149.76	7	13.4	6.4	
97	970	3182.57	7	15.3	8.3	
98	980	3215.38	7	8.9	1.9	
99	990	3248.19	7	11	4	
100a	1000	3281	7	13.2	6.2	
100b	1000	3281	7	8.7	1.7	
101	1010	3313.81	7	13	6	
102	1020	3346.62	7	10.9	3.9	
103	1030	3379.43	7	10.4	3.4	
104	1040	3412.24	7	14	7	
105	1050	3445.05	7	9.6	2.6	
106	1060	3477.86	7	11.1	4.1	
107	1070	3510.67	7	10.7	3.7	
108	1080	3543.48	7	13.5	6.5	
109	1090	3576.29	7	11.5	4.5	
110a	1100	3609.1	7	7.1	0.1	
110b	1100	3609.1	7.1	7.1	0	
111	1110	3641.91	7.1	8.1	1	
112	1120	3674.72	6.9	8.5	1.6	
113	1130	3707.53	6.9	11.4	4.5	
114	1140	3740.34	6.9	7.7	0.8	
115	1150	3773.15	6.9	17.1	10.2	Kept
116	1160	3805.96	6.9	10.3	3.4	
117	1170	3838.77	6.9	12.4	5.5	
118	1180	3871.58	6.9	7.2	0.3	
119	1190	3904.39	6.9	12	5.1	
120a	1200	3937.2	6.9	7	0.1	
120b	1200	3937.2	6.8	7.1	0.3	
121	1210	3970.01	6.8	7.1	0.3	

Soilgas Data for Traverse 2002-1

122	1220	4002.82	6.8	7.1	0.3	
123	1230	4035.63	6.8	7.4	0.6	
124	1240	4068.44	6.8	7	0.2	
125	1250	4101.25	6.8	7.3	0.5	
126	1260	4134.06	6.8	6.8	0	
127	1270	4166.87	6.9	8.9	2	
128	1280	4199.68	6.9	17.3	10.4	Kept
129	1290	4232.49	6.9	6.9	0	
130a	1300	4265.3	6.9	8.1	1.2	
130b	1300	4265.3	6.9	7	0.1	
131	1310	4298.11	6.9	6.9	0	
132	1320	4330.92	6.9	7.2	0.3	
133	1330	4363.73	6.9	8.5	1.6	
134	1340	4396.54	6.9	7.4	0.5	
135	1350	4429.35	6.9	11	4.1	
136	1360	4462.16	6.9	7	0.1	
137	1370	4494.97	6.9	6.9	0	
138	1380	4527.78	6.9	8	1.1	
139	1390	4560.59	6.9	6.9	0	
140a	1400	4593.4	6.9	7.8	0.9	
140b	1400	4593.4	6.9	6.9	0	
141	1410	4626.21	6.9	7.1	0.2	
142	1420	4659.02	6.9	6.9	0	
143	1430	4691.83	6.9	6.9	0	
144	1440	4724.64	6.9	8.4	1.5	
145	1450	4757.45	6.9	7.1	0.2	
146	1460	4790.26	6.9	7	0.1	
147	1470	4823.07	6.9	7.7	0.8	
148	1480	4855.88	6.9	7	0.1	
149	1490	4888.69	6.9	7.2	0.3	
150a	1500	4921.5	6.9	7.9	1	
150b	1500	4921.5	6.9	7.3	0.4	
151	1510	4954.31	6.9	6.9	0	
152	1520	4987.12	6.9	7.7	0.8	
153	1530	5019.93	6.9	7.7	0.8	
154	1540	5052.74	6.9	7.2	0.3	
155	1550	5085.55	6.9	8.2	1.3	
156	1560	5118.36	6.9	7.4	0.5	
157	1570	5151.17	6.9	7.8	0.9	
158	1580	5183.98	6.9	7.2	0.3	
159	1590	5216.79	6.9	8	1.1	
160a	1600	5249.6	6.9	7.5	0.6	
160b	1600	5249.6	6.9	8.7	1.8	
161	1610	5282.41	6.9	8	1.1	
162	1620	5315.22	6.8	7.6	0.8	
163	1630	5348.03	6.8	7.4	0.6	
164	1640	5380.84	6.8	6.8	0	
165	1650	5413.65	6.8	9.9	3.1	
166	1660	5446.46	6.8	7	0.2	
167	1670	5479.27	6.8	7.2	0.4	
168	1680	5512.08	6.8	6.8	0	
169	1690	5544.89	6.8	7.5	0.7	
170a	1700	5577.7	6.8	7	0.2	
170b	1700	5577.7	6.8	7.2	0.4	
171	1710	5610.51	6.8	9.6	2.8	
172	1720	5643.32	6.8	8.1	1.3	
173	1730	5676.13	6.8	11.1	4.3	

Soilgas Data for Traverse 2002-1

174	1740	5708.94	6.8	8.2	1.4	
175	1750	5741.75	6.8	8.3	1.5	
176	1760	5774.56	6.8	8.2	1.4	
177	1770	5807.37	6.8	8.5	1.7	
178	1780	5840.18	6.8	8.1	1.3	
179	1790	5872.99	6.8	8.3	1.5	
180a	1800	5905.8	6.8	7.3	0.5	
180b	1800	5905.8	6.7	7.8	1.1	
181	1810	5938.61	6.7	7.8	1.1	
182	1820	5971.42	6.7	8.1	1.4	
183	1830	6004.23	6.7	7.9	1.2	
184	1840	6037.04	6.7	7.7	1	
185	1850	6069.85	6.7	7.4	0.7	
186	1860	6102.66	6.7	7.8	1.1	
187	1870	6135.47	6.9	8.2	1.3	
188	1880	6168.28	6.9	7.9	1	
189	1890	6201.09	6.9	7.5	0.6	
190a	1900	6233.9	6.4	6.8	0.4	
190b	1900	6233.9	6.4	6.5	0.1	
191	1910	6266.71	6.4	7.3	0.9	
192	1920	6299.52	6.4	9.3	2.9	
193	1930	6332.33	6.4	10.8	4.4	
194	1940	6365.14	6.4	8	1.6	
195	1950	6397.95	6.4	11.7	5.3	
196	1960	6430.76	6.4	7.6	1.2	
197	1970	6463.57	6.4	7.8	1.4	
198	1980	6496.38	6.4	21.8	15.4	Kept
199	1990	6529.19	6.4	8	1.6	
200a	2000	6562	6.4	7.5	1.1	
200b	2000	6562	6.4	7.7	1.3	
201	2010	6594.81	6.4	7.7	1.3	
202	2020	6627.62	6.5	8.2	1.7	
203	2030	6660.43	6.5	7.3	0.8	
204	2040	6693.24	6.5	6.2	6.5	
205	2050	6726.05	6.3	6.3	0	
206	2060	6758.86	6.3	7.1	0.8	
207	2070	6791.67	6.3	7.9	1.6	calibrations o.k
208	2080	6824.48	6.3	7.2	0.9	
209	2090	6857.29	6.3	6.6	0.3	
210a	2100	6890.1	6.3	6.7	0.4	
210b	2100	6890.1	6.3	7	0.7	
211	2110	6922.91	6.3	6.4	0.1	
212	2120	6955.72	6.3	7.3	1	
213	2130	6988.53	6.3	6.6	0.3	
214	2140	7021.34	6.3	8.2	1.9	
215	2150	7054.15	6.6	6.6	0	
216	2160	7086.96	6.6	8.2	1.6	
217	2170	7119.77	6.6	7.5	0.9	
218	2180	7152.58	6.6	7.3	0.7	
219	2190	7185.39	6.6	7.7	1.1	
220a	2200	7218.2	6.6	8.3	1.7	
220b	2200	7218.2	6.6	7.9	1.3	
221	2210	7251.01	6.6	6.6	0	
222	2220	7283.82	6.6	7.6	1	
223	2230	7316.63	6.6	8.4	1.8	
224	2240	7349.44	6.6	7.8	1.2	
225	2250	7382.25	6.6	7.5	0.9	

Soilgas Data for Traverse 2002-1

226	2260	7415.06	6.6	7.7	1.1	
227	2270	7447.87	6.6	10.6	4	
228	2280	7480.68	6.6	9.6	3	
229	2290	7513.49	6.6	7.5	0.9	
230a	2300	7546.3	6.6	10.7	4.1	
230b	2300	7546.3	6.6	9.7	3.1	
231	2310	7579.11	6.4	14.7	8.3	
232	2320	7611.92	6.4	13.4	7	
233	2330	7644.73	6.4	10.8	4.4	
234	2340	7677.54	6.4	14.3	7.9	
235	2350	7710.35	6.4	21.4	15	Kept
236	2360	7743.16	6.4	19.1	12.7	Kept
237	2370	7775.97	6.4	8.3	1.9	
238	2380	7808.78	6.4	7.8	1.4	
239	2390	7841.59	6.4	8.1	1.7	
240a	2400	7874.4	6.4	14.8	8.4	
240b	2400	7874.4	6.8	10.5	3.7	
241	2410	7907.21	6.8	63	56.2	Kept
242	2420	7940.02	6.8	45	38.2	Kept
243	2430	7972.83	6.8	11.2	4.4	
244	2440	8005.64	6.8	8.4	1.6	
245	2450	8038.45	6.8	7.7	0.9	
246	2460	8071.26	6.8	7.6	0.8	
247	2470	8104.07	6.8	7.6	0.8	
248	2480	8136.88	6.7	7.9	1.2	
249	2490	8169.69	6.7	10.6	3.9	
250a	2500	8202.5	6.7	14.4	7.7	
250b	2500	8202.5	6.7	11.1	4.4	
251	2510	8235.31	6.6	9.9	3.3	
252	2520	8268.12	6.6	14.2	7.6	
253	2530	8300.93	6.6	13.3	6.7	
254	2540	8333.74	6.6	26.8	20.2	
255	2550	8366.55	6.6	9.3	2.7	
256	2560	8399.36	6.6	23.3	16.7	Kept
257	2570	8432.17	6.6	7.2	0.6	
258	2580	8464.98	6.6	15	8.4	
259	2590	8497.79	6.6	7.5	0.9	
260a	2600	8530.6	6.6	6.2	6.2	
260b	2600	8530.6	6.6	6	6	
261	2610	8563.41	6.4	7.2	0.8	
262	2620	8596.22	6.4	7.2	0.8	
263	2630	8629.03	6.4	9.4	3	
264	2640	8661.84	6.4	6.9	0.5	
265	2650	8694.65	6.4	6.4	0	
266	2660	8727.46	6.4	7.5	1.1	
267	2670	8760.27	6.4	7.1	0.7	
268	2680	8793.08	6.4	7.2	0.8	
269	2690	8825.89	6.4	6.9	0.5	
270a	2700	8858.7	6.4	8.2	1.8	
270b	2700	8858.7	6.4	7.1	0.7	
271	2710	8891.51	6.4	8.6	2.2	
272	2720	8924.32	6.2	8	1.8	
273	2730	8957.13	6.2	7.3	1.1	
274	2740	8989.94	6.2	7	0.8	
275	2750	9022.75	6.2	6.4	0.2	
276	2760	9055.56	6.2	7.8	1.6	
277	2770	9088.37	6.3	6.4	0.1	

Soilgas Data for Traverse 2002-1

278	2780	9121.18	6.3	6.5	0.2	
279	2790	9153.99	6.3	6.1	6.1	
280a	2800	9186.8	6.3	6.5	0.2	
280b	2800	9186.8	6.3	6.4	0.1	
281	2810	9219.61	6.3	6.7	0.4	
282	2820	9252.42	6.2	6.4	0.2	
283	2830	9285.23	6.2	8.2	2	
284	2840	9318.04	6.2	6.8	0.6	
285	2850	9350.85	6.2	6.5	0.3	
286	2860	9383.66	6.2	6.8	0.6	
287	2870	9416.47	6.2	6.2	0	
288	2880	9449.28	6	6.3	0.3	
289	2890	9482.09	6	5.8	5.8	
290a	2900	9514.9	6	6.9	0.9	
290b	2900	9514.9	6	6	0	
291	2910	9547.71	6	5.9	5.9	
292	2920	9580.52	6	6.4	0.4	Last Sample
Traverse2002-8						
					7/10/2002	
Operators;J. Fountain, M. Fountain, T. Nelson, J. Zybala, C. Nochajski, A. Harper						
H2=O.K Batt=8.0 Leak Test=O.K Flow=O.K						
Sample 300a at SW corner of Hall's corners and Stout Rd. Traverse heads south on Stout						
Sample #	Distance (m)	Distance (ft.)	bckgrd	peak	net	comments
300a	0	0	6.4	10	3.6	soil very dry readings
300b	0	0	6.4	8.4	2	very low.
301	10	32.81	6.4	10.6	4.2	Nearer am
302	20	65.62	6.5	8.9	2.4	
303	30	98.43	6.5	6.7	0.2	
304	40	131.24	6.5	7	0.5	
305	50	164.05	6.5	12.3	5.8	
306	60	196.86	6.5	6.9	0.4	
307	70	229.67	6.5	53.1	46.6	Kept
308	80	262.48	6.5	6.5	0	
309	90	295.29	6.5	6.7	0.2	
310a	100	328.1	6.5	7.3	0.8	
310b	100	328.1	6.5	6.5	0	
311	110	360.91	6.5	7	0.5	
312	120	393.72	6.5	7.1	0.6	
313	130	426.53	6.4	6.9	0.5	
314	140	459.34	6.4	8.7	2.3	
315	150	492.15	6.4	7.4	1	
316	160	524.96	6.4	9.2	2.8	
317	170	557.77	6.4	7.6	1.2	
318	180	590.58	6.4	7.6	1.2	
319	190	623.39	6.5	6.8	0.3	
320a	200	656.2	6.5	7.2	0.7	
320b	200	656.2	6.5	7.5	1	
321	210	689.01	6.5	6.5	0	
322	220	721.82	6.5	12.2	5.7	
323	230	754.63	6.5	6.9	0.4	
324	240	787.44	6.5	8.9	2.4	
325	250	820.25	6.5	7	0.5	

Soilgas Data for Traverse 2002-1

326	260	853.06	6.5	11.7	5.2	
327	270	885.87	6.5	6.6	0.1	
328	280	918.68	6.5	6.8	0.3	soil very dry and hard
329	290	951.49	6.5	6.6	0.1	
330a	300	984.3	6.5	8.1	1.6	
330b	300	984.3	6.5	9.1	2.6	
331	310	1017.11	6.5	7.7	1.2	
332	320	1049.92	6.5	6.6	0.1	
333	330	1082.73	6.5	6.9	0.4	
334	340	1115.54	6.5	9.6	3.1	
335	350	1148.35	6.5	11.5	5	
336	360	1181.16	6.5	7.9	1.4	
337	370	1213.97	6.5	14.9	8.4	Kept
338	380	1246.78	6.5	7.3	0.8	
339	390	1279.59	6.5	8	1.5	
340a	400	1312.4	6.5	16.1	9.6	Kept
340b	400	1312.4	6.5	9.7	3.2	
341	410	1345.21	6.5	7	0.5	
342	420	1378.02	6.5	7.7	1.2	
343	430	1410.83	6.5	9.5	3	
344	440	1443.64	6.5	9.5	3	
345	450	1476.45	6.5	6.5	0	
346	460	1509.26	6.5	32.5	26	Kept
347	470	1542.07	6.5	13.2	6.7	
348	480	1574.88	6.5	11.6	5.1	
349	490	1607.69	6.5	7.4	0.9	
350a	500	1640.5	6.5	7.2	0.7	
350b	500	1640.5	6.5	6.6	0.1	
351	510	1673.31	6.5	6.5	0	
352	520	1706.12	6.5	6.7	0.2	
353	530	1738.93	6.4	19.4	13	Kept
354	540	1771.74	6.4	6.9	0.5	on golf coarse, wet
355	550	1804.55	6.4	13.7	7.3	
356	560	1837.36	6.4	6.7	0.3	
357	570	1870.17	6.4	14	7.6	
358	580	1902.98	6.4	25.7	19.3	Kept
359	590	1935.79	6.4	22.2	15.8	Kept
360a	600	1968.6	6.4	8.5	2.1	on edge of marsh
360b	600	1968.6	6.3	7.7	1.4	
361	610	2001.41	6.3	6.3	0	
362	620	2034.22	6.3	13.3	7	
363	630	2067.03	6.3	7	0.7	
364	640	2099.84	6.3	6.8	0.5	
365	650	2132.65	6.2	6.2	0	
366	660	2165.46	6.2	7.1	0.9	
367	670	2198.27	6.1	6.3	0.2	
368	680	2231.08	6.1	6.5	0.4	
369	690	2263.89	6.1	7.1	1	
370a	700	2296.7	6.1	7.7	1.6	
370b	700	2296.7	6.3	7.2	0.9	
371	710	2329.51	6.3	6.3	0	
372	720	2362.32	6.3	7.2	0.9	
373	730	2395.13	6.3	6.5	0.2	
374	740	2427.94	6.3	6.3	0	
375	750	2460.75	6.3	12.3	6	
376	760	2493.56	6.3	6.3	0	
377	770	2526.37	6.3	6.3	0	

Soilgas Data for Traverse 2002-1

378	780	2559.18	6.3	6.3	0	
379	790	2591.99	6.3	6.3	0	
380a	800	2624.8	6.3	7	0.7	
380b	800	2624.8	6.1	6.6	0.5	
381	810	2657.61	6.1	8.2	2.1	
382	820	2690.42	6.1	6.3	0.2	
383	830	2723.23	6.1	6.1	0	
384	840	2756.04	6.1	7.1	1	
385	850	2788.85	6.1	6.4	0.3	
386	860	2821.66	6.1	35.5	29.4	Kept
387	870	2854.47	6.1	9	2.9	
388	880	2887.28	5.9	6.3	0.4	driveway
389	890	2920.09	5.9	6.1	0.2	
390a	900	2952.9	5.9	6.4	0.5	
390b	900	2952.9	5.9	6.7	0.8	
391	910	2985.71	5.9	6.2	0.3	
392	920	3018.52	5.9	7.6	1.7	
393	930	3051.33	5.9	7.7	1.8	
394	940	3084.14	5.9	7	1.1	
395	950	3116.95	5.9	7.3	1.4	
396	960	3149.76	5.9	36.9	31	Kept
397	970	3182.57	5.9	18.2	12.3	Kept
398	980	3215.38	5.9	8.3	2.4	
399	990	3248.19	5.9	7.9	2	
400a	1000	3281	5.9	9.2	3.3	
400b	1000	3281	6	10.9	4.9	
401	1010	3313.81	6	16.8	10.8	Kept
402	1020	3346.62	6	6.5	0.5	
403	1030	3379.43	6	6.4	0.4	
404	1040	3412.24	6	55.7	49.7	Kept
405	1050	3445.05	6	6.7	0.7	
406	1060	3477.86	6	7.2	1.2	
407	1070	3510.67	6	10	4	
408	1080	3543.48	6	12.1	6.1	
409	1090	3576.29	6	13.7	7.7	
410a	1100	3609.1	6	6.4	0.4	
410b	1100	3609.1	6	11.3	5.3	
411	1110	3641.91	5.8	11.3	5.5	
412	1120	3674.72	6	7.9	1.9	
413	1130	3707.53	6	9.5	3.5	
414	1140	3740.34	6	8.1	2.1	
415	1150	3773.15	6	6.9	0.9	
416	1160	3805.96	6	18.2	12.2	Kept
417	1170	3838.77	6	9.5	3.5	
418	1180	3871.58	6	8.5	2.5	
419	1190	3904.39	6	6.6	0.6	
420a	1200	3937.2	6	9.1	3.1	
420b	1200	3937.2	6	6.7	0.7	
421	1210	3970.01	6	62	56	Kept
422	1220	4002.82	6	7.7	1.7	
423	1230	4035.63	6	6.8	0.8	
424	1240	4068.44	6	7.3	1.3	
425	1250	4101.25	6	7.2	1.2	
426	1260	4134.06	6	6.5	0.5	
427	1270	4166.87	6	7	1	
428	1280	4199.68	6	6.3	0.3	
429	1290	4232.49	6	7.1	1.1	

Soilgas Data for Traverse 2002-1

430a	1300	4265.3	6	8	2
430b	1300	4265.3	6	8	2
431	1310	4298.11	6	6.7	0.7
432	1320	4330.92	6	8.4	2.4
433	1330	4363.73	6	9.8	3.8
434	1340	4396.54	6	6.4	0.4
435	1350	4429.35	6	6.6	0.6
436	1360	4462.16	6	6.6	0.6
437	1370	4494.97	6	8.2	2.2
438	1380	4527.78	6	7.6	1.6
439	1390	4560.59	6	8.6	2.6
440a	1400	4593.4	6	9.4	3.4
440b	1400	4593.4	6	8.2	2.2
441	1410	4626.21	6	7.8	1.8
442	1420	4659.02	6	8.2	2.2
443	1430	4691.83	6	7.7	1.7
444	1440	4724.64	6	8.1	2.1
445	1450	4757.45	5.9	7.6	1.7
446	1460	4790.26	5.9	6.9	1
447	1470	4823.07	5.9	8.2	2.3
448	1480	4855.88	5.9	7.4	1.5
449	1490	4888.69	5.9	7.3	1.4
450a	1500	4921.5	5.9	7.2	1.3
450b	1500	4921.5	5.9	6.7	0.8
451	1510	4954.31	5.9	7	1.1
same traverse, but heading west on west Covert, started new sample #'s and new distance #'s					
501	0	0	5.8	8.8	3
502	10	32.81	5.8	7.9	2.1
503	20	65.62	5.8	7	1.2
504	30	98.43	5.8	7.3	1.5
505	40	131.24	5.8	7.8	2
506	50	164.05	5.8	22.2	16.4
507	60	196.86	5.8	7.5	1.7
508	70	229.67	5.8	8.1	2.3
509	80	262.48	5.8	10.7	4.9
510a	90	295.29	5.8	9.9	4.1
510b	90	295.29	5.8	11.1	5.3
511	100	328.1	5.8	9	3.2
512	110	360.91	5.8	14.6	8.8
513	120	393.72	5.8	11.1	5.3
514	130	426.53	5.8	11.3	5.5
515	140	459.34	5.8	10.9	5.1
516	150	492.15	5.8	11.2	5.4
517	160	524.96	5.8	11.8	6
518	170	557.77	5.8	11.1	5.3
519	180	590.58	5.8	11.8	6
520a	190	623.39	5.8	10.2	4.4
520b	190	623.39	5.8	11.9	6.1
521	200	656.2	5.8	11.4	5.6
522	210	689.01	7.1	11.6	4.5
523	220	721.82	7.1	10.1	3
524	230	754.63	7.1	11.8	4.7
525	240	787.44	7.1	10.3	3.2
526	250	820.25	7.1	9.4	2.3
527	260	853.06	7.1	12.4	5.3
528	270	885.87	7	10.6	3.6
529	280	918.68	7	11.6	4.6

Soilgas Data for Traverse 2002-1

530a	290	951.49	7	10.6	3.6	
530b	290	951.49	7	13.3	6.3	
531	300	984.3	6.5	10.3	3.8	
532	310	1017.11	6.5	14	7.5	
same traverse turned left headed south on Burdick						
sample #	distance (m)	distance (ft)	bckgrd	peak	net	
601	0	0	6.3	31.5	25.2	Kept
602	10	38.21	6.3	11.9	5.6	
603	20	76.42	6.3	10.4	4.1	
604	30	114.63	6.3	17.3	11	
605	40	152.84	6.3	20	13.7	Kept
606	50	191.05	6.3	12.2	5.9	
607	60	229.26	6.3	8.1	1.8	
608	70	267.47	6.3	12.3	6	
609	80	305.68	6.3	6.7	0.4	
610a	90	343.89	6.3	22.5	16.2	Kept
610b	90	343.89	6.3	14.5	8.2	
611	100	382.1	6.3	7.1	0.8	
612	110	420.31	6.3	9.5	3.2	
613	120	458.52	6.3	12.7	6.4	
614	130	496.73	6.3	8.3	2	
615	140	534.94	6.5	10.9	4.4	
616	150	573.15	6.5	8.9	2.4	
617	160	611.36	6.5	11.2	4.7	
618	170	649.57	6.5	13.3	6.8	
619	180	687.78	6.5	19.5	13	
620a	190	725.99	6.5	15.5	9	
620b	190	725.99	6.5	10.8	4.3	
621	200	764.2	6.5	12.9	6.4	
622	210	802.41	6.5	25.3	18.8	Kept
623	220	840.62	6.5	10	3.5	
624	230	878.83	6.3	17.9	11.6	Kept
625	240	917.04	6.3	7.6	1.3	
626	250	955.25	6.3	6.9	0.6	
627	260	993.46	6.3	59.9	53.6	Kept
628	270	1031.67	6.3	10	3.7	
629	280	1069.88	6.3	12.3	6	
630a	290	1108.09	6.3	36.4	30.1	Kept
630b	290	1108.09	6.3	11.7	5.4	
631	300	1146.3	6.3	11.3	5	
632	310	1184.51	6.3	7.3	1	
633	320	1222.72	6.3	21.5	15.2	Kept
634	330	1260.93	6.3	10.3	4	
635	340	1299.14	6.3	9.8	3.5	
636	350	1337.35	6.3	6.8	0.5	
637	360	1375.56	6.5	11.5	5	
638	370	1413.77	6.5	24.8	18.3	Kept
639	380	1451.98	6.5	7.5	1	
640a	390	1490.19	6.5	12.5	6	
640b	390	1490.19	6.5	7.6	1.1	
641	400	1528.4	6.5	6.7	0.2	
642	410	1566.61	6.5	11.5	5	
643	420	1604.82	6.5	10.3	3.8	
644	430	1643.03	6.5	10.2	3.7	
645	440	1681.24	6.5	7.9	1.4	
646	450	1719.45	6.5	8	1.5	
647	460	1757.66	6.5	17.3	10.8	

Soilgas Data for Traverse 2002-1

648	470	1795.87	6.5	10.4	3.9	
649	480	1834.08	6.5	6.9	0.4	
650a	490	1872.29	6.5	7.5	1	
650b	490	1872.29	6.5	10.3	3.8	
651	500	1910.5	6.5	11.3	4.8	
652	510	1948.71	6.5	7.2	0.7	
653	520	1986.92	6.5	46.5	40	Kept
654	530	2025.13	6.5	111.5	105	Kept
655	540	2063.34	6.5	6.6	0.1	
656	550	2101.55	6.5	7.6	1.1	
657	560	2139.76	6.2	11.2	5	
658	570	2177.97	6.2	16.2	10	
659	580	2216.18	6.2	14.1	7.9	
660a	590	2254.39	6.2	6.6	0.4	
660b	590	2254.39	6.2	6.6	0.4	
661	600	2292.6	6.2	12.3	6.1	
662	610	2330.81	6.2	8.8	2.6	
663	620	2369.02	6.2	8.9	2.7	
664	630	2407.23	6.2	8.6	2.4	
665	640	2445.44	6.2	9.3	3.1	
666	650	2483.65	6.2	7.3	1.1	
667	660	2521.86	6.2	7.1	0.9	
668	670	2560.07	6.2	13.4	7.2	
669	680	2598.28	6.2	15	8.8	
670a	690	2636.49	6.2	252	245.8	Kept
670b	690	2636.49	6.2	89.5	83.3	Kept
671	700	2674.7	6.2	15.8	9.6	
672	710	2712.91	6.2	6.5	0.3	
673	720	2751.12	6.2	12.5	6.3	
674	730	2789.33	6.2	17.3	11.1	
675	740	2827.54	6.2	11.3	5.1	
676	750	2865.75	6.2	7.8	1.6	
677	760	2903.96	6.3	6.9	0.6	
678	770	2942.17	6.3	7.9	1.6	
679	780	2980.38	6.2	8.6	2.4	
680a	790	3018.59	6.2	7	0.8	
680b	790	3018.59	6.2	6.7	0.5	
681	800	3056.8	6.2	8.3	2.1	
682	810	3095.01	6.2	6.2	0	
683	820	3133.22	6.2	7.3	1.1	
684	830	3171.43	6.2	7	0.8	
685	840	3209.64	6.2	6.6	0.4	
686	850	3247.85	6.2	7.4	1.2	
687	860	3286.06	6.4	7	0.6	
688	870	3324.27	6.4	8.7	2.3	
689	880	3362.48	6.4	17.9	11.5	
690a	890	3400.69	6.4	6.7	0.3	
690b	890	3400.69	6.4	13.8	7.4	
691	900	3438.9	6.4	7.8	1.4	
692	910	3477.11	6.4	8.8	2.4	
693	920	3515.32	6.4	9.3	2.9	
694	930	3553.53	6.4	14.7	8.3	
695	940	3591.74	6.4	14.1	7.7	
696	950	3629.95	6.4	11.9	5.5	
697	960	3668.16	6.4	11.8	5.4	
698	970	3706.37	6.4	17.2	10.8	
699	980	3744.58	6.4	20.9	14.5	Kept

Soilgas Data for Traverse 2002-1

700a	990	3782.79	6.4	11	4.6	
700b	990	3782.79	6.4	7.2	0.8	
701	1000	3821	6.4	7.4	1	
702	1010	3859.21	6.4	7.1	0.7	
703	1020	3897.42	6.4	18.2	11.8	Kept
704	1030	3935.63	6.4	7	0.6	
705	1040	3973.84	6.9	6.9	0	
706	1050	4012.05	6.9	20.2	13.3	Kept
707	1060	4050.26	6.9	10.4	3.5	
708	1070	4088.47	6.9	10.7	3.8	
709	1080	4126.68	6.9	12	5.1	
710a	1090	4164.89	6.9	7	0.1	
710b	1090	4164.89	6.9	10.3	3.4	
711	1100	4203.1	6.9	6.9	0	
712	1110	4241.31	6.9	11.2	4.3	
713	1120	4279.52	6.9	7.1	0.2	
714	1130	4317.73	6.9	6.9	0	
715	1140	4355.94	6.9	9.6	2.7	
716	1150	4394.15	6.2	8.4	2.2	
717	1160	4432.36	6.4	9.4	3	
718	1170	4470.57	6.4	10.6	4.2	
719	1180	4508.78	6.4	10.5	4.1	
720a	1190	4546.99	6.4	8.4	2	
720b	1190	4546.99	6.4	9.6	3.2	
721	1200	4585.2	6.4	6.7	0.3	
722	1210	4623.41	6.4	7.9	1.5	
723	1220	4661.62	6.4	7.1	0.7	
724	1230	4699.83	6.4	6.8	0.4	
725	1240	4738.04	6.4	6.7	0.3	
726	1250	4776.25	6.4	7.1	0.7	
727	1260	4814.46	6.3	7.6	1.3	
728	1270	4852.67	6.3	10.6	4.3	
729	1280	4890.88	6.3	9	2.7	
730a	1290	4929.09	6.3	7.1	0.8	
730b	1290	4929.09	6.6	7.7	1.1	
731	1300	4967.3	6.6	7	0.4	
732	1310	5005.51	6.6	9.8	3.2	
733	1320	5043.72	6.6	6.7	0.1	
734	1330	5081.93	6.6	7	0.4	
735	1340	5120.14	6.6	8	1.4	
736	1350	5158.35	6.6	8.4	1.8	
737	1360	5196.56	6.6	12.3	5.7	
738	1370	5234.77	6.2	7.8	1.6	
739	1380	5272.98	6.2	12.4	6.2	
740a	1390	5311.19	6.2	10.6	4.4	
740b	1390	5311.19	6.2	6.6	0.4	
741	1400	5349.4	6.2	7.7	1.5	
742	1410	5387.61	6.2	11.4	5.2	
743	1420	5425.82	6.2	6.9	0.7	
744	1430	5464.03	6.1	9.6	3.5	
745	1440	5502.24	6.1	8.1	2	
746	1450	5540.45	6.1	9.1	3	
747	1460	5578.66	6.1	8.1	2	
748	1470	5616.87	6.1	6.4	0.3	
749	1480	5655.08	6.1	8	1.9	
750a	1490	5693.29	6.1	6.1	0	
750b	1490	5693.29	6.1	6.8	0.7	

Soilgas Data for Traverse 2002-1

751	1500	5731.5	6.3	12.4	6.1	
752	1510	5769.71	6.3	10.3	4	
753	1520	5807.92	6.3	8.3	2	
754	1530	5846.13	6.3	6.9	0.6	
755	1540	5884.34	6.3	7.2	0.9	
756	1550	5922.55	6.3	6.3	0	
757	1560	5960.76	6.3	10	3.7	
758	1570	5998.97	6.3	11	4.7	
759	1580	6037.18	6.3	8.8	2.5	
760a	1590	6075.39	6.3	6.3	0	No Sample
760b	1590	6075.39	6.3	6.3	0	No Sample
761	1600	6113.6	6.3	6.7	0.4	
762	1610	6151.81	6.3	9.6	3.3	
763	1620	6190.02	6.3	9.9	3.6	
764	1630	6228.23	6.3	6.6	0.3	
765	1640	6266.44	6.3	8.7	2.4	
766	1650	6304.65	6.3	15.8	9.5	
767	1660	6342.86	6.3	9.9	3.6	
768	1670	6381.07	6.3	6.5	0.2	
769	1680	6419.28	6.3	11.4	5.1	
770a	1690	6457.49	6.3	7	0.7	
770b	1690	6457.49	6.3	11.4	5.1	
771	1700	6495.7	6.3	10.7	4.4	
772	1710	6533.91	6.3	8.7	2.4	
773	1720	6572.12	6.3	11.2	4.9	
774	1730	6610.33	6.3	6.6	0.3	
775	1740	6648.54	6.3	7	0.7	
776	1750	6686.75	6.3	6.8	0.5	
777	1760	6724.96	6.3	7	0.7	
778	1770	6763.17	6.3	10.7	4.4	
779	1780	6801.38	6.3	9.2	2.9	
780a	1790	6839.59	6.3	8.5	2.2	
780b	1790	6839.59	6.3	8.5	2.2	
781	1800	6877.8	6.3	7	0.7	
782	1810	6916.01	6.3	10.7	4.4	
783	1820	6954.22	6.3	9.3	3	
784	1830	6992.43	6.3	11.1	4.8	
785	1840	7030.64	6.3	10.7	4.4	
786	1850	7068.85	6.3	7.8	1.5	
787	1860	7107.06	6.3	8.1	1.8	
788	1870	7145.27	6.3	8.2	1.9	
789	1880	7183.48	6.3	6.9	0.6	
790a	1890	7221.69	6.3	10.1	3.8	
790b	1890	7221.69	6.3	9.8	3.5	
791	1900	7259.9	6.3	6.8	0.5	
792	1910	7298.11	6.3	6.6	0.3	
793	1920	7336.32	6.3	7.6	1.3	
794	1930	7374.53	6.3	8.2	1.9	
795	1940	7412.74	6.3	6.9	0.6	
796	1950	7450.95	6.3	9.9	3.6	
797	1960	7489.16	6.3	6.5	0.2	
798	1970	7527.37	6.3	6.8	0.5	
799	1980	7565.58	6.3	7.3	1	
800a	1990	7603.79	6.3	11.1	4.8	
800b	1990	7603.79	6.3	8.8	2.5	
801	2000	7642	6.3	7.4	1.1	
802	2010	7680.21	6.3	6.9	0.6	

Soilgas Data for Traverse 2002-1

803	2020	7718.42	6.3	11.1	4.8	
804	2030	7756.63	6.3	7.1	0.8	
805	2040	7794.84	6.3	8.8	2.5	
806	2050	7833.05	6.3	6.7	0.4	
807	2060	7871.26	6.3	7.6	1.3	
808	2070	7909.47	6.3	8.7	2.4	
809	2080	7947.68	6.3	15.9	9.6	
810a	2090	7985.89	6.3	6.9	0.6	
810b	2090	7985.89	6.3	7.5	1.2	
811	2100	8024.1	6.3	6.8	0.5	
812	2110	8062.31	6.3	26.9	20.6	Kept
813	2120	8100.52	6.3	10.4	4.1	
814	2130	8138.73	6.3	81.5	75.2	Kept
815	2140	8176.94	6.3	37.8	31.5	Kept
816	2150	8215.15	6.3	128.5	122.2	Kept
817	2160	8253.36	6.3	10.9	4.6	
818	2170	8291.57	6.3	6.3	0	
819	2180	8329.78	6.3	6.3	0	
820a	2190	8367.99	6.3	8.7	2.4	
820b	2190	8367.99	6.3	6.9	0.6	
821	2200	8406.2	6.3	12.5	6.2	
822	2210	8444.41	6.3	14.7	8.4	
823	2220	8482.62	6.3	7.1	0.8	
824	2230	8520.83	6.3	11.4	5.1	
825	2240	8559.04	6.3	9.3	3	
826	2250	8597.25	6.3	9.7	3.4	
827	2260	8635.46	6.3	6.7	0.4	
828	2270	8673.67	6.3	6.3	0	
829	2280	8711.88	6.3	7.1	0.8	
830a	2290	8750.09	6.3	9.4	3.1	
830b	2290	8750.09	6.3	13.1	6.8	
831	2300	8788.3	6.3	9.2	2.9	
832	2310	8826.51	6.3	6.8	0.5	
833	2320	8864.72	6.3	7.7	1.4	
834	2330	8902.93	6.3	9.3	3	
835	2340	8941.14	6.3	9.8	3.5	
836	2350	8979.35	6.3	9.1	2.8	
837	2360	9017.56	6.3	6.8	0.5	
838	2370	9055.77	6.3	9.7	3.4	
839	2380	9093.98	6.3	6.9	0.6	
840a	2390	9132.19	6.3	9	2.7	
840b	2390	9132.19	6.3	6.8	0.5	
841	2400	9170.4	6.3	8.4	2.1	
842	2410	9208.61	6.3	8.3	2	
843	2420	9246.82	6.3	11.9	5.6	
844	2430	9285.03	6.3	8.6	2.3	
845	2440	9323.24	6.3	8.6	2.3	
846	2450	9361.45	6.3	6.5	0.2	
847	2460	9399.66	6.3	10.7	4.4	
848	2470	9437.87	6.3	7.1	0.8	
849	2480	9476.08	6.3	10.5	4.2	
850a	2490	9514.29	6.3	9.5	3.2	
850b	2490	9514.29	6.3	6.7	0.4	
851	2500	9552.5	6.3	9.7	3.4	
852	2510	9590.71	6.3	7.2	0.9	
853	2520	9628.92	6.3	11	4.7	
854	2530	9667.13	6.3	8.9	2.6	

Soilgas Data for Traverse 2002-1

855	2540	9705.34	6.3	7	0.7
856	2550	9743.55	6.3	9.6	3.3
857	2560	9781.76	6.3	10	3.7
858	2570	9819.97	6.3	10.1	3.8
859	2580	9858.18	6.3	8.5	2.2
860a	2590	9896.39	6.3	6.8	0.5
860b	2590	9896.39	6.3	9.9	3.6
861	2600	9934.6	6.3	6.7	0.4
862	2610	9972.81	6.3	7	0.7
863	2620	10011.02	6.3	9.5	3.2
864	2630	10049.23	6.3	8.4	2.1
865	2640	10087.44	6.3	9.7	3.4
866	2650	10125.65	6.3	7	0.7
867	2660	10163.86	6.3	13.3	7
868	2670	10202.07	6.3	11.6	5.3
869	2680	10240.28	6.3	12.9	6.6
870a	2690	10278.49	6.3	12.4	6.1
870b	2690	10278.49	6.3	9.1	2.8
871	2700	10316.7	6.3	6.8	0.5
872	2710	10354.91	6.3	10.8	4.5
873	2720	10393.12	6.3	6.5	0.2
874	2730	10431.33	6.3	10.3	4
875	2740	10469.54	6.3	15.3	9
876	2750	10507.75	6.3	7.9	1.6
877	2760	10545.96	6.3	11.8	5.5
878	2770	10584.17	6.3	6.7	0.4
879	2780	10622.38	6.3	7	0.7
880a	2790	10660.59	6.3	9.7	3.4
880b	2790	10660.59	6.3	9.8	3.5
881	2800	10698.8	6.3	11.4	5.1
882	2810	10737.01	6.3	8.2	1.9
883	2820	10775.22	6.3	6.3	0
884	2830	10813.43	6.3	8.1	1.8
885	2840	10851.64	6.3	9.5	3.2
886	2850	10889.85	6.3	7.7	1.4
887	2860	10928.06	6.3	9.5	3.2
888	2870	10966.27	6.3	8.9	2.6
889	2880	11004.48	6.3	6.6	0.3
890a	2890	11042.69	6.3	6.5	0.2
890b	2890	11042.69	6.3	7.5	1.2
891	2900	11080.9	6.3	8.9	2.6
892	2910	11119.11	6.3	11.2	4.9
893	2920	11157.32	6.3	7.2	0.9
894	2930	11195.53	6.3	9	2.7
895	2940	11233.74	6.3	9.4	3.1
896	2950	11271.95	6.3	10.1	3.8
897	2960	11310.16	6.3	8	1.7
898	2970	11348.37	6.3	7	0.7
899	2980	11386.58	6.8	8.5	1.7
900a	2990	11424.79	6.8	8.8	2
900b	2990	11424.79	6.5	9.4	2.9
901	3000	11463	6.5	10.7	4.2
902	3010	11501.21	6.5	6.5	0
903	3020	11539.42	6.5	10.6	4.1
904	3030	11577.63	6.5	8.2	1.7
905	3040	11615.84	6.5	9.5	3
906	3050	11654.05	6.5	7.4	0.9

Soilgas Data for Traverse 2002-1

907	3060	11692.26	6.5	7.4	0.9	
908	3070	11730.47	6.5	6.8	0.3	
909	3080	11768.68	6.5	6.5	0	
910a	3090	11806.89	6.5	9.4	2.9	
910b	3090	11806.89	6.5	6.5	0	
911	3100	11845.1	6.5	10.8	4.3	
912	3110	11883.31	8.1	8.1	0	Last Sample
Traverse 2002-9					7/11/2002	
Operators;J. Fountain, M. Fountain, T. Nelson, J. Zybala, C. Nochajski, A. Harper						
H2=O.K Batt=8.0 Leak Test=O.K Flow=O.K						
first sample NW corner of west covert rd. and county 142						
Sample #	Distance (m)	Distance (ft)	bckgrd	peak	net	comments
1000a	0	0	5.9	6.5	0.6	Dry Soil
1000b	0	0	5.9	7.3	1.4	soil moisture 10%
1001	10	32.81	5.9	15.2	9.3	
1002	20	65.62	5.9	8.3	2.4	
1003	30	98.43	5.9	7.7	1.8	
1004	40	131.24	5.9	7.4	1.5	
1005	50	164.05	5.9	6.4	0.5	
1006	60	196.86	5.9	6.3	0.4	
1007	70	229.67	5.9	7.9	2	
1008	80	262.48	5.9	9	3.1	
1009	90	295.29	5.9	0	0	No Sample
1010a	100	328.1	5.9	10.2	4.3	
1010b	100	328.1	5.9	8.7	2.8	
1011	110	360.91	5.9	16	10.1	Kept
1012	120	393.72	5.9	6.4	0.5	
1013	130	426.53	5.9	16.4	10.5	
1014	140	459.34	5.8	9	3.2	
1015	150	492.15	5.8	9.6	3.8	
1016	160	524.96	5.8	8.9	3.1	
1017	170	557.77	5.8	24.9	19.1	Kept
1018	180	590.58	5.8	16	10.2	
1019	190	623.39	5.8	6.5	0.7	
1020a	200	656.2	5.8	6.7	0.9	
1020b	200	656.2	5.8	0	0	No Sample
1021	210	689.01	5.9	149	143.1	Kept
1022	220	721.82	5.9	8.2	2.3	
1023	230	754.63	5.9	5.9	0	
1024	240	787.44	5.9	9.8	3.9	
1025	250	820.25	5.9	24.5	18.6	Kept
1026	260	853.06	5.8	10.5	4.7	
1027	270	885.87	5.8	7	1.2	
1028	280	918.68	5.8	6.5	0.7	
1029	290	951.49	5.8	6.5	0.7	
1030a	300	984.3	5.8	16.5	10.7	Kept
1030b	300	984.3	5.8	9.5	3.7	
1031	310	1017.11	5.8	8.7	2.9	
1032	320	1049.92	5.8	7.5	1.7	
1033	330	1082.73	5.8	13	7.2	
1034	340	1115.54	5.8	7.5	1.7	
1035	350	1148.35	5.8	8.9	3.1	

Soilgas Data for Traverse 2002-1

1036	360	1181.16	5.8	8.6	2.8	
1037	370	1213.97	5.8	6.3	0.5	
1038	380	1246.78	5.8	5.8	0	
1039	390	1279.59	5.8	6.1	0.3	
1040a	400	1312.4	5.8	5.8	0	
1040b	400	1312.4	5.8	6	0.2	
1041	410	1345.21	5.8	7	1.2	
1042	420	1378.02	5.8	6	0.2	
1043	430	1410.83	5.8	10.1	4.3	
1044	440	1443.64	5.8	10.5	4.7	
1045	450	1476.45	5.9	6.2	0.3	
1046	460	1509.26	5.9	7.3	1.4	
1047	470	1542.07	5.8	16.6	10.8	Kept
1048	480	1574.88	5.8	6.6	0.8	
1049	490	1607.69	5.8	5.8	0	
1050a	500	1640.5	5.8	6.3	0.5	
1050b	500	1640.5	5.9	7	1.1	
1051	510	1673.31	5.9	7.6	1.7	
1052	520	1706.12	5.9	5.9	0	
1053	530	1738.93	5.9	11	5.1	
1054	540	1771.74	5.9	6.6	0.7	
1055	550	1804.55	5.9	6.1	0.2	
1056	560	1837.36	5.9	11.6	5.7	
1057	570	1870.17	5.9	8.4	2.5	
1058	580	1902.98	5.9	11.2	5.3	
1059	590	1935.79	5.9	7.3	1.4	
1060a	600	1968.6	5.9	7.4	1.5	
1060b	600	1968.6	5.9	10.1	4.2	
1061	610	2001.41	5.9	10.9	5	
1062	620	2034.22	5.9	10.3	4.4	
1063	630	2067.03	5.9	9.4	3.5	
1064	640	2099.84	5.8	7.4	1.6	
1065	650	2132.65	5.8	5.9	0.1	
1066	660	2165.46	5.8	13.1	7.3	
1067	670	2198.27	5.8	8.2	2.4	
1068	680	2231.08	5.8	9	3.2	
1069	690	2263.89	5.8	8.9	3.1	
1070a	700	2296.7	5.8	8.3	2.5	
1070b	700	2296.7	5.8	11.3	5.5	
1071	710	2329.51	5.8	8.5	2.7	
1072	720	2362.32	5.8	6.7	0.9	
1073	730	2395.13	5.8	10.4	4.6	
1074	740	2427.94	5.8	13.2	7.4	
1075	750	2460.75	5.8	17.2	11.4	Kept
1076	760	2493.56	5.8	6.3	0.5	
1077	770	2526.37	5.8	11.1	5.3	
1078	780	2559.18	5.8	7.8	2	
1079	790	2591.99	5.8	9.8	4	
1080a	800	2624.8	5.8	17.9	12.1	Kept
1080b	800	2624.8	5.9	14.2	8.3	
1081	810	2657.61	5.9	7.4	1.5	
1082	820	2690.42	5.9	8.7	2.8	
1083	830	2723.23	5.8	16.1	10.3	Kept
1084	840	2756.04	5.8	10.6	4.8	
1085	850	2788.85	5.8	14.3	8.5	
1086	860	2821.66	5.8	11.6	5.8	
1087	870	2854.47	5.8	10.8	5	

Soilgas Data for Traverse 2002-1

1088	880	2887.28	5.8	6.6	0.8	
1089	890	2920.09	5.8	9.3	3.5	
1090a	900	2952.9	5.8	9.3	3.5	
1090b	900	2952.9	5.8	7.5	1.7	
1091	910	2985.71	5.8	14.5	8.7	
1092	920	3018.52	5.8	6.3	0.5	
1093	930	3051.33	5.8	5.8	0	
1094	940	3084.14	5.8	11.4	5.6	
1095	950	3116.95	5.8	16.7	10.9	Kept
1096	960	3149.76	5.8	7.2	1.4	
1097	970	3182.57	5.8	11.1	5.3	
1098	980	3215.38	5.8	8.2	2.4	
1099	990	3248.19	5.8	6.3	0.5	
1100a	1000	3281	5.8	6.4	0.6	
1100b	1000	3281	5.8	5.8	0	
1101	1010	3313.81	5.8	6.7	0.9	
1102	1020	3346.62	5.8	6.5	0.7	
1103	1030	3379.43	5.8	11.4	5.6	
1104	1040	3412.24	5.8	8.1	2.3	
1105	1050	3445.05	5.8	5.8	0	
1106	1060	3477.86	5.8	6.4	0.6	
1107	1070	3510.67	5.8	8.7	2.9	
1108	1080	3543.48	5.8	6.6	0.8	
1109	1090	3576.29	5.8	6.2	0.4	
1110a	1100	3609.1	5.8	5.8	0	
1110b	1100	3609.1	5.7	6.5	0.8	
1111	1110	3641.91	5.7	6.1	0.4	
1112	1120	3674.72	5.7	7.9	2.2	
1113	1130	3707.53	5.7	6.5	0.8	
1114	1140	3740.34	5.7	6.8	1.1	
1115	1150	3773.15	5.7	5.8	0.1	
1116	1160	3805.96	5.7	6.1	0.4	
1117	1170	3838.77	5.7	7	1.3	
1118	1180	3871.58	5.7	6	0.3	
1119	1190	3904.39	5.7	6.4	0.7	
1120a	1200	3937.2	5.7	6.8	1.1	
1120b	1200	3937.2	5.7	7.1	1.4	
1121	1210	3970.01	5.7	5.9	0.2	
1122	1220	4002.82	5.7	6.6	0.9	
1123	1230	4035.63	5.7	7.9	2.2	
1124	1240	4068.44	5.7	6	0.3	
1125	1250	4101.25	5.7	6.1	0.4	
1126	1260	4134.06	5.7	6.4	0.7	
1127	1270	4166.87	5.7	5.8	0.1	
1128	1280	4199.68	5.7	7.6	1.9	
1129	1290	4232.49	5.7	6.3	0.6	
1130a	1300	4265.3	5.7	6.6	0.9	
1130b	1300	4265.3	5.7	6.2	0.5	
1131	1310	4298.11	5.7	6.2	0.5	
1132	1320	4330.92	5.7	7.4	1.7	
1133	1330	4363.73	5.7	13.8	8.1	
1134	1340	4396.54	5.7	10.7	5	
1135	1350	4429.35	5.7	6.2	0.5	
1136	1360	4462.16	5.7	6.8	1.1	
1137	1370	4494.97	5.7	7.8	2.1	
1138	1380	4527.78	5.7	8.1	2.4	
1139	1390	4560.59	5.7	6.1	0.4	

Soilgas Data for Traverse 2002-1

1140a	1400	4593.4	5.7	6.5	0.8	
1140b	1400	4593.4	5.7	6.2	0.5	
1141	1410	4626.21	5.7	5.9	0.2	
1142	1420	4659.02	5.7	5.9	0.2	
1143	1430	4691.83	5.7	6.6	0.9	
1144	1440	4724.64	5.7	6.4	0.7	
1145	1450	4757.45	5.7	8.2	2.5	
1146	1460	4790.26	5.7	7.5	1.8	
1147	1470	4823.07	5.7	10.1	4.4	
1148	1480	4855.88	5.8	14.7	8.9	
1149	1490	4888.69	5.8	5.9	0.1	
1150a	1500	4921.5	5.8	7.6	1.8	
1150b	1500	4921.5	5.8	7.5	1.7	
1151	1510	4954.31	5.8	7	1.2	
1152	1520	4987.12	5.8	9.5	3.7	
1153	1530	5019.93	5.8	5.9	0.1	
1154	1540	5052.74	5.8	5.8	0	
1155	1550	5085.55	5.8	6.4	0.6	
1156	1560	5118.36	5.8	6.4	0.6	
1157	1570	5151.17	5.8	6.6	0.8	
1158	1580	5183.98	5.8	6.3	0.5	
1159	1590	5216.79	5.8	5.9	0.1	
1160a	1600	5249.6	5.8	6.9	1.1	
1160b	1600	5249.6	5.8	6.4	0.6	
1161	1610	5282.41	5.8	6.2	0.4	
1162	1620	5315.22	5.8	6.5	0.7	
1163	1630	5348.03	5.8	6.2	0.4	
1164	1640	5380.84	5.8	6.7	0.9	
1165	1650	5413.65	5.8	7.3	1.5	
1166	1660	5446.46	5.8	6.2	0.4	
1167	1670	5479.27	5.8	16.3	10.5	
1168	1680	5512.08	5.8	7	1.2	
1169	1690	5544.89	5.8	6.8	1	
1170a	1700	5577.7	5.8	20.6	14.8	Kept
1170b	1700	5577.7	5.8	9	3.2	lose tip on syringe
1171	1710	5610.51	5.8	6.5	0.7	
1172	1720	5643.32	5.8	7.2	1.4	
1173	1730	5676.13	5.8	6.8	1	
1174	1740	5708.94	5.8	7.4	1.6	
1175	1750	5741.75	5.8	7.7	1.9	
1176	1760	5774.56	5.8	19.1	13.3	Kept
1177	1770	5807.37	5.8	10.7	4.9	
1178	1780	5840.18	5.8	7.8	2	
1179	1790	5872.99	5.8	7.1	1.3	
1180a	1800	5905.8	5.8	7.8	2	
1180b	1800	5905.8	5.8	6.3	0.5	
1181	1810	5938.61	5.8	6	0.2	
1182	1820	5971.42	5.8	6.5	0.7	
1183	1830	6004.23	5.8	8.3	2.5	
1184	1840	6037.04	5.8	7.5	1.7	
1185	1850	6069.85	5.8	9.1	3.3	
1186	1860	6102.66	5.8	7.8	2	
1187	1870	6135.47	5.8	6.3	0.5	
1188	1880	6168.28	5.8	0	0	No Sample
1189	1890	6201.09	5.8	8.4	2.6	
1190a	1900	6233.9	5.8	7.8	2	
1190b	1900	6233.9	5.8	5.9	0.1	

Soilgas Data for Traverse 2002-1

1191	1910	6266.71	5.8	6.1	0.3	
1192	1920	6299.52	5.8	6.2	0.4	
1193	1930	6332.33	5.8	7.6	1.8	
1194	1940	6365.14	5.8	6.9	1.1	
1195	1950	6397.95	5.8	6.1	0.3	
1196	1960	6430.76	5.8	7.4	1.6	
1197	1970	6463.57	5.8	6.6	0.8	
1198	1980	6496.38	5.8	7.4	1.6	
1199	1990	6529.19	5.8	6.7	0.9	
1200a	2000	6562	5.8	7.2	1.4	
1200b	2000	6562	5.8	12.6	6.8	
1201	2010	6594.81	5.8	11.2	5.4	
1202	2020	6627.62	5.8	6.1	0.3	
1203	2030	6660.43	5.8	6.3	0.5	
1204	2040	6693.24	5.8	6.6	0.8	
1205	2050	6726.05	5.8	7	1.2	
1206	2060	6758.86	5.8	8.8	3	
1207	2070	6791.67	5.8	5.8	0	
1208	2080	6824.48	5.8	7.7	1.9	
1209	2090	6857.29	5.8	7.2	1.4	
1210a	2100	6890.1	5.8	7.5	1.7	
1210b	2100	6890.1	5.8	8	2.2	
1211	2110	6922.91	5.8	6.4	0.6	
1212	2120	6955.72	5.8	8.8	3	
1213	2130	6988.53	5.8	7.07	1.27	
1214	2140	7021.34	5.8	6.2	0.4	
1215	2150	7054.15	5.8	6.2	0.4	
1216	2160	7086.96	5.8	8.3	2.5	
1217	2170	7119.77	5.8	7.4	1.6	
1218	2180	7152.58	5.8	7.8	2	
1219	2190	7185.39	5.8	7.5	1.7	
1220a	2200	7218.2	5.8	6	0.2	
1220b	2200	7218.2	5.8	6.4	0.6	
1221	2210	7251.01	5.8	5.8	0	
1222	2220	7283.82	5.8	7.7	1.9	
1223	2230	7316.63	5.8	7.7	1.9	
1224	2240	7349.44	5.8	8.1	2.3	
1225	2250	7382.25	5.8	6.1	0.3	
1226	2260	7415.06	5.8	7.5	1.7	
1227	2270	7447.87	5.8	8.8	3	
1228	2280	7480.68	5.8	6.6	0.8	
1229	2290	7513.49	5.8	7.1	1.3	
1230a	2300	7546.3	5.8	7.2	1.4	
1230b	2300	7546.3	5.8	7.7	1.9	
1231	2310	7579.11	5.8	5.8	0	
1232	2320	7611.92	5.8	7.3	1.5	
1233	2330	7644.73	5.8	6.6	0.8	
1234	2340	7677.54	5.8	9	3.2	
1235	2350	7710.35	5.8	8.5	2.7	
1236	2360	7743.16	5.8	17.4	11.6	Kept
1237	2370	7775.97	5.8	6.3	0.5	
1238	2380	7808.78	5.8	6.5	0.7	
1239	2390	7841.59	5.8	6.3	0.5	
1240a	2400	7874.4	5.8	6	0.2	
1240b	2400	7874.4	5.8	6	0.2	
1241	2410	7907.21	5.8	8.3	2.5	
1242	2420	7940.02	5.8	6.1	0.3	

Soilgas Data for Traverse 2002-1

1243	2430	7972.83	5.8	6.3	0.5	
1244	2440	8005.64	5.8	6	0.2	
1245	2450	8038.45	5.8	5.9	0.1	
1246	2460	8071.26	5.8	8.1	2.3	
1247	2470	8104.07	5.8	5.5	0	Flame Out
1248	2480	8136.88	5.8	5.9	0.1	
1249	2490	8169.69	5.8	5.9	0.1	
1250a	2500	8202.5	5.8	8.1	2.3	
1250b	2500	8202.5	5.8	6.7	0.9	
1251	2510	8235.31	5.8	7.6	1.8	
1252	2520	8268.12	5.8	5.9	0.1	
1253	2530	8300.93	5.8	6.1	0.3	
1254	2540	8333.74	5.9	7.6	1.7	
1255	2550	8366.55	5.9	6.3	0.4	
1256	2560	8399.36	5.9	7	1.1	
1257	2570	8432.17	5.9	6	0.1	
1258	2580	8464.98	5.9	5.9	0	
1259	2590	8497.79	5.9	6.7	0.8	
1260a	2600	8530.6	5.9	6.3	0.4	
1260b	2600	8530.6	5.9	7.3	1.4	
1261	2610	8563.41	5.9	7.3	1.4	
1262	2620	8596.22	5.9	6.5	0.6	
1263	2630	8629.03	5.9	5.9	0	
1264	2640	8661.84	5.9	5.9	0	
1265	2650	8694.65	5.9	7	1.1	
1266	2660	8727.46	5.9	5.9	0	
1267	2670	8760.27	5.9	8.3	2.4	
1268	2680	8793.08	5.9	6.3	0.4	
1269	2690	8825.89	5.9	7.2	1.3	
1270a	2700	8858.7	5.9	5.9	0	
1270b	2700	8858.7	5.9	5.8	0	
1271	2710	8891.51	5.9	5.9	0	
1272	2720	8924.32	5.9	6.1	0.2	
1273	2730	8957.13	5.9	5.9	0	
1274	2740	8989.94	5.9	5.9	0	
1275	2750	9022.75	5.9	7.2	1.3	
1276	2760	9055.56	5.9	6.7	0.8	
1277	2770	9088.37	5.9	5.9	0	
1278	2780	9121.18	5.9	7.1	1.2	
1279	2790	9153.99	5.9	6.4	0.5	
1280a	2800	9186.8	5.9	7.3	1.4	
1280b	2800	9186.8	5.9	7.11	1.21	
1281	2810	9219.61	5.9	5.9	0	
1282	2820	9252.42	5.9	5.9	0	
1283	2830	9285.23	5.9	5.9	0	
1284	2840	9318.04	5.9	8.4	2.5	
1285	2850	9350.85	5.9	7	1.1	
1286	2860	9383.66	5.9	6.9	1	
1287	2870	9416.47	5.9	10.8	4.9	
1288	2880	9449.28	5.9	7.3	1.4	
1289	2890	9482.09	5.9	7.2	1.3	
1290a	2900	9514.9	5.9	12.8	6.9	
1290b	2900	9514.9	5.9	7.2	1.3	
1291	2910	9547.71	5.9	7	1.1	
1292	2920	9580.52	5.9	8.3	2.4	
1293	2930	9613.33	5.9	5.9	0	
1294	2940	9646.14	5.9	6.5	0.6	

Soilgas Data for Traverse 2002-1

1295	2950	9678.95	5.9	5.9	0	
1296	2960	9711.76	5.9	7.2	1.3	
1297	2970	9744.57	5.9	5.9	0	
1298	2980	9777.38	5.9	5.9	0	
1299	2990	9810.19	5.9	13.8	7.9	
1300a	3000	9843	5.9	6.9	1	
1300b	3000	9843	5.9	6.6	0.7	
1301	3010	9875.81	5.9	6.1	0.2	
1302	3020	9908.62	5.9	7.7	1.8	
1303	3030	9941.43	5.9	5.9	0	
1304	3040	9974.24	5.9	5.9	0	
1305	3050	10007.05	5.9	5.9	0	
1306	3060	10039.86	5.9	8.1	2.2	
1307	3070	10072.67	5.9	5.9	0	
1308	3080	10105.48	5.9	5.9	0	
1309	3090	10138.29	5.9	6.3	0.4	
1310a	3100	10171.1	5.9	5.9	0	
1310b	3100	10171.1	5.9	6.8	0.9	
1311	3110	10203.91	5.9	8.2	2.3	
1312	3120	10236.72	5.9	5.9	0	
1313	3130	10269.53	5.9	6.3	0.4	
1314	3140	10302.34	5.9	9.7	3.8	
1315	3150	10335.15	5.9	7.1	1.2	
1316	3160	10367.96	5.9	5.9	0	
1317	3170	10400.77	5.9	5.9	0	
1318	3180	10433.58	5.9	6	0.1	
1319	3190	10466.39	5.9	5.9	0	
1320a	3200	10499.2	5.9	5.9	0	
1320b	3200	10499.2	5.9	6.5	0.6	
1321	3210	10532.01	5.9	5.9	0	
1322	3220	10564.82	5.9	6.7	0.8	
1323	3230	10597.63	5.9	5.9	0	
1324	3240	10630.44	5.8	6.6	0.8	
1325	3250	10663.25	5.8	24.6	18.8	Last Sample
Traverse 2002-10						
8/6/2002						
Operators;J. Fountain, M. Fountain, T. Nelson, J. Zybala, C. Nochajski, A. Harper						
H2=O.K Batt=8.0 Leak Test=O.K Flow=O.K						
Heading North to Ames Rd. on Trail off from Seneca Rd.						
Sample #	Distance (m)	Distance (ft)	bckgrd	peak	net	comments
0a	0	0	6.3	6.3	0	Same Location as 0
0b	0	0	6.3	6.4	0.1	in Trail Traverse
1	10	32.81	6.3	7.1	0.8	No Soil outcrop at 1
2	20	65.62	6.3	6.4	0.1	Thin soil along road
3	30	98.43	6.3	7.2	0.9	dry soil
4	40	131.24	6.3	6.5	0.2	
5	50	164.05	6.4	6.4	0	
6	60	196.86	6.4	7.9	1.5	
7	70	229.67	6.4	8.3	1.9	
8	80	262.48	6.4	6.8	0.4	
9	90	295.29	6.4	8.7	2.3	
10a	100	328.1	6.4	7	0.6	
10b	100	328.1	6.4	6.7	0.3	

Soilgas Data for Traverse 2002-1

11	110	360.91	6.4	6.7	0.3	
12	120	393.72	6.4	6.9	0.5	
13	130	426.53	6.4	7.6	1.2	
14	140	459.34	6.6	7.2	0.6	
15	150	492.15	6.6	7.1	0.5	
16	160	524.96	6.6	7	0.4	
17	170	557.77	6.6	6.4	0	
18	180	590.58	6.6	6.5	0	
19	190	623.39	6.4	7	0.6	
20a	200	656.2	6.4	6.5	0.1	
20b	200	656.2	6.4	8.3	1.9	
21	210	689.01	6.4	6.4	0	Air
22	220	721.82	6.4	6.5	0.1	
23	230	754.63	6.4	6.6	0.2	These samples are all air. But samples are being taken very deep and carefully Probes are very tight in soil good seal
24	240	787.44	6.4	7.5	1.1	
25	250	820.25	6.4	6.6	0.2	
26	260	853.06	6.4	6.7	0.3	
27	270	885.87	6.4	6.7	0.3	
28	280	918.68	6.4	6.7	0.3	
29	290	951.49	6.6	7.4	0.8	
30a	300	984.3	6.6	6.7	0.1	
30b	300	984.3	6.6	7	0.4	
31	310	1017.11	6.6	6.7	0.1	
32	320	1049.92	6.6	6.7	0.1	
33	330	1082.73	6.6	6.6	0	
34	340	1115.54	6.6	7.5	0.9	
35	350	1148.35	6.6	7.3	0.7	
36	360	1181.16	6.6	7.2	0.6	
37	370	1213.97	6.6	6.9	0.3	
38	380	1246.78	6.6	5.6	0	
39	390	1279.59	6.5	7	0.5	
40a	400	1312.4	6.5	7.4	0.9	
40b	400	1312.4	6.5	6.6	0.1	
41	410	1345.21	6.5	7.1	0.6	
42	420	1378.02	6.5	8.1	1.6	
43	430	1410.83	6.5	8.4	1.9	
44	440	1443.64	6.5	5.8	0	
45	450	1476.45	6.5	6.7	0.2	
46	460	1509.26	6.3	6	0	
47	470	1542.07	6.3	6.6	0.3	
48	480	1574.88	6.3	6.4	0.1	
49	490	1607.69	6.3	6.4	0.1	
50a	500	1640.5	6.3	7	0.7	
50b	500	1640.5	6.3	7.2	0.9	
51	510	1673.31	6.3	6.5	0.2	
52	520	1706.12	6.3	6.3	0	
53	530	1738.93	6.3	7	0.7	
54	540	1771.74	6.3	7.4	1.1	PK
55	550	1804.55	6.3	7.2	0.9	
56	560	1837.36	6.3	0	0	No Sample
57	570	1870.17	6.3	6.5	0.2	
58	580	1902.98	6.3	6.7	0.4	
59	590	1935.79	6.3	9	2.7	
60a	600	1968.6	6.3	6.1	0	
60b	600	1968.6	6.3	6.4	0.1	
61	610	2001.41	6.3	7.3	1	
62	620	2034.22	6.3	6.7	0.4	

Soilgas Data for Traverse 2002-1

63	630	2067.03	6.3	6.5	0.2	
64	640	2099.84	6.3	6.3	0	
65	650	2132.65	6.3	6.1	0	
66	660	2165.46	6.3	6.5	0.2	
67	670	2198.27	6.3	5.9	0	
68	680	2231.08	6.4	7	0.6	
69	690	2263.89	6.4	6.4	0	
70a	700	2296.7	6.4	6.4	0	
70b	700	2296.7	6.4	6.7	0.3	
71	710	2329.51	6.4	6.6	0.2	
72	720	2362.32	6.4	7.4	1	
73	730	2395.13	6.4	7.1	0.7	
74	740	2427.94	6.4	6.7	0.3	
75	750	2460.75	6.4	5.5	0	
76	760	2493.56	6.4	5.4	0	
77	770	2526.37	6.4	7.2	0.8	
78	780	2559.18	6.4	7.3	0.9	
79	790	2591.99	6.4	6.7	0.3	
80a	800	2624.8	6.4	6.4	0	
80b	800	2624.8	6.4	7.5	1.1	
81	810	2657.61	6.4	6.4	0	
82	820	2690.42	6.4	10.3	3.9	Kept
83	830	2723.23	6.4	6.7	0.3	
84	840	2756.04	6.4	5.1	0	
85	850	2788.85	6.4	6.8	0.4	
86	860	2821.66	6.4	6.8	0.4	
87	870	2854.47	6.4	6.4	0	
88	880	2887.28	6.4	6.5	0.1	
89	890	2920.09	6.4	7.4	1	
90a	900	2952.9	6.4	6.3	0	
90b	900	2952.9	6.4	7.8	1.4	
91	910	2985.71	6.4	7.8	1.4	
92	920	3018.52	6.4	6.5	0.1	
93	930	3051.33	6.4	7.3	0.9	
94	940	3084.14	6.4	6.2	0	
95	950	3116.95	6.4	7.5	1.1	
96	960	3149.76	6.4	6.3	0	
97	970	3182.57	6.4	11.4	5	Kept
98	980	3215.38	6.4	6.6	0.2	
99	990	3248.19	6.4	6.5	0.1	
100a	1000	3281	6.4	6.8	0.4	
100b	1000	3281	6.4	7.3	0.9	
101	1010	3313.81	6.4	7.3	0.9	
102	1020	3346.62	6.4	6.5	0.1	
103	1030	3379.43	6.4	6.8	0.4	
104	1040	3412.24	6.4	6.8	0.4	
105	1050	3445.05	6.4	7.1	0.7	
106	1060	3477.86	6.4	9	2.6	Near Creek
107	1070	3510.67	6.4	7	0.6	
108	1080	3543.48	6.4	9.6	3.2	
109	1090	3576.29	6.4	6.6	0.2	
110a	1100	3609.1	6.4	7	0.6	
110b	1100	3609.1	6.4	7.3	0.9	
111	1110	3641.91	6.4	6.7	0.3	
112	1120	3674.72	6.4	7.6	1.2	
113	1130	3707.53	6.4	6	0	
114	1140	3740.34	6.4	6.4	0	

Soilgas Data for Traverse 2002-1

115	1150	3773.15	6.4	6.8	0.4	
116	1160	3805.96	6.3	6.5	0.2	
117	1170	3838.77	6.3	6.8	0.5	
118	1180	3871.58	6.3	7	0.7	
119	1190	3904.39	6.3	6.8	0.5	
120a	1200	3937.2	6.3	7	0.7	
120b	1200	3937.2	6.3	6.7	0.4	
121	1210	3970.01	6.3	6.3	0	
122	1220	4002.82	6.3	6.9	0.6	
123	1230	4035.63	6.3	6.3	0	
124	1240	4068.44	6.3	6.8	0.5	
125	1250	4101.25	6.3	5	0	
126	1260	4134.06	6.3	6.1	0	
127	1270	4166.87	6.3	8.2	1.9	
128	1280	4199.68	6.3	6.3	0	
129	1290	4232.49	6.3	6.6	0.3	
130a	1300	4265.3	6.3	8.4	2.1	
130b	1300	4265.3	6.3	10.2	3.9	
131	1310	4298.11	6.3	7.2	0.9	
132	1320	4330.92	6.3	7.1	0.8	
133	1330	4363.73	6.3	7.7	1.4	
134	1340	4396.54	6.3	7	0.7	
135	1350	4429.35	6.3	6.8	0.5	
136	1360	4462.16	6.3	6.7	0.4	
137	1370	4494.97	6	7.3	1.3	
138	1380	4527.78	6	6.7	0.7	
139	1390	4560.59	6	7.6	1.6	
140a	1400	4593.4	6	5.9	0	
140b	1400	4593.4	6	6.3	0.3	
141	1410	4626.21	6	6.3	0.3	
142	1420	4659.02	6	6.2	0.2	
143	1430	4691.83	6	8.3	2.3	
144	1440	4724.64	6	8.4	2.4	
145	1450	4757.45	6	6	0	
146	1460	4790.26	6	6.2	0.2	
147	1470	4823.07	6	6.1	0.1	
148	1480	4855.88	6	6	0	
149	1490	4888.69	6	10.4	4.4	Kept
150a	1500	4921.5	6	6.3	0.3	
150b	1500	4921.5	6	6.6	0.6	
151	1510	4954.31	6	6.7	0.7	
152	1520	4987.12	6	8.4	2.4	
153	1530	5019.93	6	6.9	0.9	(?69.6?)-in field book
154	1540	5052.74	6	6	0	
155	1550	5085.55	6	6.2	0.2	
156	1560	5118.36	6	10	4	
157	1570	5151.17	6	5.8	0	
158	1580	5183.98	6	7.1	1.1	
159	1590	5216.79	6	16.1	10.1	
Last Sample on corner of ditch / End of Intersection						
End at Parmenter and Ames Intersection						
Traverse 2002-11					8/7/2002	
Operators;J. Fountain, M. Fountain, T. Nelson, J. Zybala, C. Nochajski, A. Harper						
H2=O.K Batt=8.0 Leak Test=O.K Flow=O.K						

Soilgas Data for Traverse 2002-1

Going North / Start at Seneca Rd. and Vesa Rd.						
Sample #	Distance (m)	Distance (ft)	bckgrd	peak	net	comments
200a	0	0	6.1	7.8	1.7	Very Dry
200b	0	0	6.1	9.3	3.2	
201	10	32.81	6.1	5.9	0	
202	20	65.62	6.1	10.6	4.5	Kept
203	30	98.43	6.1	6.1	0	
204	40	131.24	6.1	8.2	2.1	
205	50	164.05	6.1	6.1	0	
206	60	196.86	6.1	6.2	0.1	
207	70	229.67	6.1	6.3	0.2	
208	80	262.48	6.1	6.4	0.3	
209	90	295.29	6.1	7.4	1.3	
210a	100	328.1	6.2	6	0	
210b	100	328.1	6.2	6.3	0.1	
211	110	360.91	6.2	7	0.8	
212	120	393.72	6.2	14	7.8	Kept
213	130	426.53	6.2	4.7	0	
214	140	459.34	6.2	6.9	0.7	
215	150	492.15	6.2	9.9	3.7	
216	160	524.96	6.2	6.4	0.2	
217	170	557.77	6.2	6.8	0.6	
218	180	590.58	6.2	7.2	1	
219	190	623.39	6.2	6.5	0.3	
220a	200	656.2	6.2	7.5	1.3	
220b	200	656.2	6.2	7.4	1.2	
221	210	689.01	6.2	7.8	1.6	
222	220	721.82	6.2	7.4	1.2	
223	230	754.63	6.2	7.8	1.6	
224	240	787.44	6.2	6.6	0.4	
225	250	820.25	6.2	7.7	1.5	
226	260	853.06	6.2	8.7	2.5	
227	270	885.87	6.2	7.7	1.5	
228	280	918.68	6.2	9.4	3.2	
229	290	951.49	6.2	7.9	1.7	
230a	300	984.3	6.2	8.6	2.4	
230b	300	984.3	6.2	9.1	2.9	
231	310	1017.11	6.2	8.9	2.7	
232	320	1049.92	6.2	12.9	6.7	Kept
233	330	1082.73	6.2	7.2	1	
234	340	1115.54	6.2	7.4	1.2	
235	350	1148.35	6.2	6.7	0.5	
236	360	1181.16	6.2	6.6	0.4	
237	370	1213.97	6.2	7.8	1.6	
238	380	1246.78	6.2	7.3	1.1	
239	390	1279.59	6	4.2	0	
240a	400	1312.4	6	7.5	1.5	
240b	400	1312.4	6	7.6	1.6	
241	410	1345.21	6	7.1	1.1	
242	420	1378.02	6	7	1	
243	430	1410.83	6	6.9	0.9	
244	440	1443.64	6	7.3	1.3	
245	450	1476.45	6	6.9	0.9	
246	460	1509.26	6	6.7	0.7	
247	470	1542.07	6	7	1	

Soilgas Data for Traverse 2002-1

248	480	1574.88	6.4	7.7	1.3	
249	490	1607.69	6.4	8	1.6	
250a	500	1640.5	6.4	8.2	1.8	
250b	500	1640.5	6.4	7.2	0.8	
251	510	1673.31	6.4	7	0.6	
252	520	1706.12	6.4	8.3	1.9	
253	530	1738.93	6.4	8.4	2	
254	540	1771.74	6.7	6.5	0	
255	550	1804.55	6.7	6.7	0	
256	560	1837.36	6.7	6.9	0.2	
257	570	1870.17	6.7	7	0.3	
258	580	1902.98	6.7	11.9	5.2	Kept
259	590	1935.79	6.7	9.8	3.1	
260a	600	1968.6	6.7	9.3	2.6	
260b	600	1968.6	6.7	7.8	1.1	
261	610	2001.41	6.7	8	1.3	
262	620	2034.22	6.7	7.2	0.5	
263	630	2067.03	6.7	6.9	0.2	
264	640	2099.84	6.7	7.2	0.5	
265	650	2132.65	6.7	6.9	0.2	
266	660	2165.46	6.7	9	2.3	
267	670	2198.27	6.9	7	0.1	
268	680	2231.08	6.9	7.6	0.7	
269	690	2263.89	6.9	7.2	0.3	
270a	700	2296.7	6.9	8.7	1.8	
270b	700	2296.7	6.9	7.7	0.8	
271	710	2329.51	6.9	14.7	7.8	Kept
272	720	2362.32	6.9	10.4	3.5	Kept
273	730	2395.13	6.4	7.4	1	
274	740	2427.94	6.4	7.4	1	
275	750	2460.75	6.4	7.9	1.5	
276	760	2493.56	6.4	14.3	7.9	Kept
277	770	2526.37	6.4	15.1	8.7	Kept
278	780	2559.18	6.4	8.3	1.9	
279	790	2591.99	6.4	7.2	0.8	
280a	800	2624.8	6.4	7.8	1.4	
280b	800	2624.8	6.4	7.5	1.1	
281	810	2657.61	6.4	8.1	1.7	
282	820	2690.42	6.4	6.4	0	
283	830	2723.23	6.4	8.5	2.1	
284	840	2756.04	6.4	9.2	2.8	
285	850	2788.85	6.4	7.6	1.2	
286	860	2821.66	6.4	7.7	1.3	
287	870	2854.47	6.4	7.2	0.8	
288	880	2887.28	6.4	10.1	3.7	
289	890	2920.09	6.4	9	2.6	
290a	900	2952.9	6.4	10	3.6	Kept
290b	900	2952.9	6.4	8.4	2	
291	910	2985.71	6.4	7.1	0.7	
292	920	3018.52	6.4	7.4	1	
293	930	3051.33	6.4	8.5	2.1	
294	940	3084.14	6.4	8.3	1.9	
295	950	3116.95	6.4	7.7	1.3	
296	960	3149.76	6.4	7.1	0.7	
297	970	3182.57	6.4	7.4	1	
298	980	3215.38	6.6	9.2	2.6	
299	990	3248.19	6.6	8.3	1.7	

Soilgas Data for Traverse 2002-1

300a	1000	3281	6.6	7.8	1.2	
300b	1000	3281	6.6	8.7	2.1	
301	1010	3313.81	6.6	7.9	1.3	
302	1020	3346.62	6.6	7.9	1.3	
303	1030	3379.43	6.6	8.4	1.8	
304	1040	3412.24	6.6	7.4	0.8	
305	1050	3445.05	6.6	10.5	3.9	
306	1060	3477.86	6.6	7.3	0.7	
307	1070	3510.67	6.6	10.6	4	
308	1080	3543.48	6.6	7.4	0.8	
309	1090	3576.29	6.6	7.1	0.5	
310a	1100	3609.1	6.6	7.5	0.9	
310b	1100	3609.1	6.6	7.1	0.5	
311	1110	3641.91	6.6	7.1	0.5	
312	1120	3674.72	7.4	9	1.6	
313	1130	3707.53	7.5	9.9	2.4	
314	1140	3740.34	7.5	7.6	0.1	
315	1150	3773.15	7.5	7.7	0.2	
316	1160	3805.96	7.5	8.4	0.9	
317	1170	3838.77	7.5	8.4	0.9	
318	1180	3871.58	7.6	8.2	0.6	
319	1190	3904.39	7.6	8.7	1.1	
320a	1200	3937.2	7.6	8.7	1.1	
320b	1200	3937.2	7.6	8.3	0.7	
321	1210	3970.01	7.6	9.1	1.5	
322	1220	4002.82	7.6	9.9	2.3	
323	1230	4035.63	7.6	9.1	1.5	
324	1240	4068.44	7.6	8.3	0.7	
325	1250	4101.25	7.6	9.3	1.7	
326	1260	4134.06	7.6	8.5	0.9	
327	1270	4166.87	7.6	11.2	3.6	
328	1280	4199.68	7.6	8.9	1.3	
329	1290	4232.49	7.6	8.9	1.3	
330a	1300	4265.3	7.6	8.4	0.8	
330b	1300	4265.3	7.6	9.4	1.8	
331	1310	4298.11	7.6	9.5	1.9	
332	1320	4330.92	7.6	15.2	7.6	Kept
333	1330	4363.73	7.6	9	1.4	
334	1340	4396.54	7.6	8.7	1.1	200m N of intersection
335	1350	4429.35	7.5	8.2	0.7	with CR 143, outcrop in
336	1360	4462.16	7.5	9.1	1.6	edge of Rd Ditch/Many
337	1370	4494.97	7.5	8.7	1.2	close spaced fractures
338	1380	4527.78	7.5	9	1.5	at 80' cut by 340 - few
339	1390	4560.59	7.5	19	11.5	Kept
340a	1400	4593.4	7.5	8.3	0.8	
340b	1400	4593.4	7.5	8.2	0.7	
341	1410	4626.21	7.5	7.5	0	at end of outcrop
342	1420	4659.02	7.5	9	1.5	photo
343	1430	4691.83	7.5	18.6	11.1	Kept
344	1440	4724.64	7.6	8.1	0.5	
345	1450	4757.45	7.6	7.5	0	
346	1460	4790.26	7.6	14.1	6.5	
347	1470	4823.07	7.6	0	0	No Sample in Road
348	1480	4855.88	7.6	6.2	0	
349	1490	4888.69	7.6	21.3	13.7	Kept
350a	1500	4921.5	7.6	8.8	1.2	
350b	1500	4921.5	7.6	7.5	0	

Soilgas Data for Traverse 2002-1

351	1510	4954.31	7.6	7.8	0.2
352	1520	4987.12	7.6	7	0
353	1530	5019.93	7.6	9.5	1.9
354	1540	5052.74	7.6	8.5	0.9
355	1550	5085.55	7.6	8.5	0.9
356	1560	5118.36	7.6	7.9	0.3
357	1570	5151.17	7.6	6.3	0
358	1580	5183.98	7.6	7.7	0.1
359	1590	5216.79	7.6	6.7	0
360a	1600	5249.6	7.6	6.5	0
360b	1600	5249.6	6.1	8.6	2.5
361	1610	5282.41	6.1	7.7	1.6
362	1620	5315.22	6.1	10	3.9
363	1630	5348.03	6.1	7.1	1
364	1640	5380.84	6.1	6.3	0.2
365	1650	5413.65	6.1	7.4	1.3
366	1660	5446.46	6.6	6.9	0.3
367	1670	5479.27	6.6	8.2	1.6
368	1680	5512.08	6.6	6.1	0
369	1690	5544.89	6.6	5.7	0
370a	1700	5577.7	6.6	6.8	0.2
370b	1700	5577.7	6	6.9	0.9
371	1710	5610.51	6.6	8.4	1.8
372	1720	5643.32	6.6	7.4	0.8
373	1730	5676.13	6.6	6.5	0
374	1740	5708.94	6.6	7.5	0.9
375	1750	5741.75	6.6	6.5	0
376	1760	5774.56	6.6	6	0
377	1770	5807.37	6.6	6.2	0
378	1780	5840.18	6.6	7.4	0.8
379	1790	5872.99	6.6	7.4	0.8
380a	1800	5905.8	6.6	7	0.4
380b	1800	5905.8	6.6	6.7	0.1
381	1810	5938.61	6.6	6.4	0
382	1820	5971.42	6.6	7.5	0.9
383	1830	6004.23	6.3	8.2	1.9
384	1840	6037.04	6.3	9.4	3.1
385	1850	6069.85	6.3	8	1.7
386	1860	6102.66	6.3	7.9	1.6
387	1870	6135.47	6.3	7.3	1
388	1880	6168.28	6.3	6.7	0.4
389	1890	6201.09	6.3	7.5	1.2
390a	1900	6233.9	6.3	6.8	0.5
390b	1900	6233.9	6.3	8	1.7
391	1910	6266.71	6.1	6.9	0.8
392	1920	6299.52	6.1	8.7	2.6
393	1930	6332.33	6.1	7.3	1.2
394	1940	6365.14	6.1	8.1	2
395	1950	6397.95	6.2	6.9	0.7
396	1960	6430.76	6.2	7.3	1.1
397	1970	6463.57	6.2	9.4	3.2
398	1980	6496.38	6.2	7.1	0.9
399	1990	6529.19	6.2	7.1	0.9
400a	2000	6562	6.2	7.3	1.1
400b	2000	6562	6.2	6	0
401	2010	6594.81	6.2	7.4	1.2
402	2020	6627.62	6.2	7.5	1.3

Soilgas Data for Traverse 2002-1

403	2030	6660.43	6.1	7.7	1.6	
404	2040	6693.24	6.1	7.7	1.6	
405	2050	6726.05	6.1	12.2	6.1	Kept
406	2060	6758.86	6.1	10.2	4.1	
407	2070	6791.67	6.1	6.9	0.8	
408	2080	6824.48	6.1	7.3	1.2	
409	2090	6857.29	6.1	5.1	0	
410a	2100	6890.1	6.1	8.4	2.3	
410b	2100	6890.1	6.1	7.5	1.4	
411	2110	6922.91	6.1	6.6	0.5	
412	2120	6955.72	6.1	6.9	0.8	
413	2130	6988.53	6.1	7.9	1.8	
414	2140	7021.34	6.1	8.4	2.3	
415	2150	7054.15	6.1	8.2	2.1	
416	2160	7086.96	6.1	9.3	3.2	
417	2170	7119.77	6.1	5.9	0	
418	2180	7152.58	6.1	8.2	2.1	
419	2190	7185.39	6.1	9.1	3	
420a	2200	7218.2	6.1	13.3	7.2	Kept
420b	2200	7218.2	6.1	6.7	0.6	
421	2210	7251.01	6.1	7.5	1.4	
422	2220	7283.82	6.1	14.4	8.3	Kept
423	2230	7316.63	6.1	39.2	33.1	Kept
424	2240	7349.44	6.1	34.8	28.7	Kept
425	2250	7382.25	6.1	12.2	6.1	
426	2260	7415.06	6.1	15.2	9.1	Kept
427	2270	7447.87	6.1	7	0.9	
428	2280	7480.68	6.1	27.8	21.7	Kept
429	2290	7513.49	6.1	17.6	11.5	
430a	2300	7546.3	6.1	9.4	3.3	
430b	2300	7546.3	6.1	7.9	1.8	
431	2310	7579.11	6.1	8.8	2.7	
432	2320	7611.92	6.1	7.7	1.6	
433	2330	7644.73	6.1	9.2	3.1	
434	2340	7677.54	6.1	7.9	1.8	
435	2350	7710.35	6.1	7.8	1.7	
436	2360	7743.16	6.1	6.1	0	
437	2370	7775.97	6.1	8	1.9	
438	2380	7808.78	6.1	6.6	0.5	
439	2390	7841.59	6.1	6.6	0.5	
440a	2400	7874.4	6.1	7.6	1.5	
440b	2400	7874.4	6.1	6.8	0.7	
441	2410	7907.21	6.1	7.8	1.7	
442	2420	7940.02	6.1	6.6	0.5	
443	2430	7972.83	6.1	6.5	0.4	
444	2440	8005.64	6.1	6.1	0	
445	2450	8038.45	6.1	6.2	0.1	
446	2460	8071.26	6.1	8.3	2.2	
447	2470	8104.07	6.1	7.9	1.8	
448	2480	8136.88	6.1	8.9	2.8	
449	2490	8169.69	6.1	6.9	0.8	
450a	2500	8202.5	6.1	7	0.9	
450b	2500	8202.5	6.1	8.2	2.1	
451	2510	8235.31	6.2	7.7	1.5	
452	2520	8268.12	6.2	6.6	0.4	
453	2530	8300.93	6.2	7.6	1.4	
454	2540	8333.74	6.2	8.5	2.3	

Soilgas Data for Traverse 2002-1

455	2550	8366.55	6.2	7	0.8
456	2560	8399.36	6.2	6.8	0.6
457	2570	8432.17	6.2	6.4	0.2
458	2580	8464.98	6.2	6.4	0.2
459	2590	8497.79	6.1	6.7	0.6
460a	2600	8530.6	6.1	7.3	1.2
460b	2600	8530.6	6.1	7.6	1.5
461	2610	8563.41	6.1	7.3	1.2
462	2620	8596.22	6.1	6.1	0
463	2630	8629.03	6.1	6.7	0.6
464	2640	8661.84	6.1	7.4	1.3
465	2650	8694.65	6.1	7.6	1.5
466	2660	8727.46	6.1	7	0.9
467	2670	8760.27	6.1	7.7	1.6
468	2680	8793.08	6.1	7.1	1
469	2690	8825.89	6.1	7.6	1.5
470a	2700	8858.7	6.1	7.1	1
470b	2700	8858.7	6.1	6.6	0.5
471	2710	8891.51	6.1	6.5	0.4
472	2720	8924.32	6.1	7.2	1.1
473	2730	8957.13	6.1	9.5	3.4
474	2740	8989.94	6.1	8.5	2.4
475	2750	9022.75	6.1	7.5	1.4
476	2760	9055.56	6.1	6.8	0.7
477	2770	9088.37	6.1	7.9	1.8
478	2780	9121.18	6.1	9.5	3.4
479	2790	9153.99	6.1	8.3	2.2
480a	2800	9186.8	6.1	8.6	2.5
480b	2800	9186.8	6.1	7.5	1.4
481	2810	9219.61	6.1	8	1.9
482	2820	9252.42	6.1	8.6	2.5
483	2830	9285.23	6.1	7.4	1.3
484	2840	9318.04	6.1	8.6	2.5
485	2850	9350.85	6.1	8.2	2.1
486	2860	9383.66	6.1	7.3	1.2
487	2870	9416.47	6.1	8.3	2.2
488	2880	9449.28	6.1	7.6	1.5
489	2890	9482.09	6.1	8.2	2.1
490a	2900	9514.9	6.1	7.9	1.8
490b	2900	9514.9	6.1	6.3	0.2
491	2910	9547.71	6.1	7.5	1.4
492	2920	9580.52	6.1	7.5	1.4
493	2930	9613.33	6.1	6.2	0.1
494	2940	9646.14	6.1	7.4	1.3
495	2950	9678.95	6.1	7.5	1.4
496	2960	9711.76	6.1	7.9	1.8
497	2970	9744.57	6.3	7.2	0.9
498	2980	9777.38	6.3	6.7	0.4
499	2990	9810.19	6.3	7.3	1
500a	3000	9843	6.3	8.5	2.2
500b	3000	9843	6.1	7.5	1.4
501	3010	9875.81	6.1	8	1.9
502	3020	9908.62	6.1	7.8	1.7
503	3030	9941.43	6.1	7	0.9
504	3040	9974.24	6.1	7.6	1.5
505	3050	10007.05	6.1	7.5	1.4
506	3060	10039.86	6.1	7	0.9

Soilgas Data for Traverse 2002-1

507	3070	10072.67	6.1	8.3	2.2	
508	3080	10105.48	6.1	7.4	1.3	Last Sample
End at intersection with Clark Rd.						
Traverse 2002-12						
					8/7/2002	
Operators;J. Fountain, M. Fountain, T. Nelson, J. Zybala, C. Nochajski, A. Harper						
H2=O.K Batt=8.0 Leak Test=O.K Flow=O.K						
North on Burdick from Seneca Rd. Last Sample 751 at CR143 stop sign						
Sample #	Distance (m)	Distance (ft)	bckgrd	peak	net	comments
600a	0	0	6.1	8.3	2.2	
600b	0	0	6.1	6.3	0.2	
601	10	32.81	6.1	6	0	
602	20	65.62	6.1	8.2	2.1	
603	30	98.43	6.1	9.4	3.3	
604	40	131.24	6.1	8.9	2.8	
605	50	164.05	6.1	8.1	2	
606	60	196.86	6.1	12.6	6.5	
607	70	229.67	6.1	10.1	4	
608	80	262.48	6.1	8.4	2.3	
609	90	295.29	6.1	8.7	2.6	
610a	100	328.1	6.1	9	2.9	
610b	100	328.1	6.1	6.8	0.7	
611	110	360.91	6.1	6.3	0.2	
612	120	393.72	6.1	7.2	1.1	
613	130	426.53	6.1	6.2	0.1	
614	140	459.34	6.1	8	1.9	
615	150	492.15	6.1	6.2	0.1	
616	160	524.96	6.1	7.3	1.2	
617	170	557.77	6.1	9.1	3	
618	180	590.58	6.1	8.5	2.4	
619	190	623.39	6.1	6.9	0.8	
620a	200	656.2	6.1	6.3	0.2	
620b	200	656.2	6.1	7.1	1	
621	210	689.01	6.1	8.4	2.3	
622	220	721.82	6.1	6.7	0.6	
623	230	754.63	6.1	6.1	0	
624	240	787.44	6.1	6.8	0.7	
625	250	820.25	6.1	6.3	0.2	
626	260	853.06	6.1	7.8	1.7	
627	270	885.87	6.1	9	2.9	
628	280	918.68	6.1	6	0	
629	290	951.49	6.1	8.3	2.2	
630a	300	984.3	6.1	8.9	2.8	
630b	300	984.3	6.1	8.2	2.1	
631	310	1017.11	6.1	7.3	1.2	
632	320	1049.92	6.1	7.6	1.5	
633	330	1082.73	6	7.5	1.5	
634	340	1115.54	6	7.2	1.2	
635	350	1148.35	6	7.6	1.6	
636	360	1181.16	6	9.9	3.9	
637	370	1213.97	6	10.7	4.7	
638	380	1246.78	6	9.3	3.3	
639	390	1279.59	6	8.1	2.1	

Soilgas Data for Traverse 2002-1

640a	400	1312.4	6	9.5	3.5
640b	400	1312.4	6	9.3	3.3
641	410	1345.21	6	5.9	0
642	420	1378.02	6	7.2	1.2
643	430	1410.83	6	6.4	0.4
644	440	1443.64	6	6.1	0.1
645	450	1476.45	6	8.1	2.1
646	460	1509.26	6	9.7	3.7
647	470	1542.07	6	7.8	1.8
648	480	1574.88	6	6.8	0.8
649	490	1607.69	6	7.8	1.8
650a	500	1640.5	6	8.1	2.1
650b	500	1640.5	6	6.5	0.5
651	510	1673.31	6	7.8	1.8
652	520	1706.12	6	9.8	3.8
653	530	1738.93	6	6.2	0.2
654	540	1771.74	6	7.6	1.6
655	550	1804.55	6	7	1
656	560	1837.36	6	7	1
657	570	1870.17	6	7.2	1.2
658	580	1902.98	6	7	1
659	590	1935.79	6	7	1
660a	600	1968.6	6	6.8	0.8
660b	600	1968.6	6	7.3	1.3
661	610	2001.41	6	6.6	0.6
662	620	2034.22	6	7.3	1.3
663	630	2067.03	6	7.3	1.3
664	640	2099.84	6	6.3	0.3
665	650	2132.65	6	9.3	3.3
666	660	2165.46	6	6.7	0.7
667	670	2198.27	6	7.5	1.5
668	680	2231.08	6	9.3	3.3
669	690	2263.89	6	7.4	1.4
670a	700	2296.7	6	7.5	1.5
670b	700	2296.7	6	7	1
671	710	2329.51	6	6.5	0.5
672	720	2362.32	6	6.7	0.7
673	730	2395.13	6	6.8	0.8
674	740	2427.94	6	7.5	1.5
675	750	2460.75	6	7.7	1.7
676	760	2493.56	6	7.9	1.9
677	770	2526.37	6	8.1	2.1
678	780	2559.18	6	7.2	1.2
679	790	2591.99	6	6.4	0.4
680a	800	2624.8	6	7.9	1.9
680b	800	2624.8	6	7.3	1.3
681	810	2657.61	6	10.3	4.3
682	820	2690.42	6	10	4
683	830	2723.23	6	7.6	1.6
684	840	2756.04	6	8.4	2.4
685	850	2788.85	6	11.2	5.2
686	860	2821.66	6	6.8	0.8
687	870	2854.47	6	7.6	1.6
688	880	2887.28	6	8.7	2.7
689	890	2920.09	6	7.8	1.8
690a	900	2952.9	6	6.2	0.2
690b	900	2952.9	6	7.6	1.6

Soilgas Data for Traverse 2002-1

691	910	2985.71	6	8.3	2.3
692	920	3018.52	6	6.4	0.4
693	930	3051.33	6	6.4	0.4
694	940	3084.14	6	8.7	2.7
695	950	3116.95	6	6.7	0.7
696	960	3149.76	6	7.6	1.6
697	970	3182.57	6	7.6	1.6
698	980	3215.38	6	8.1	2.1
699	990	3248.19	6	8.9	2.9
700a	1000	3281	6	6.5	0.5
700b	1000	3281	6	7.5	1.5
701	1010	3313.81	6	7.4	1.4
702	1020	3346.62	6	7.8	1.8
703	1030	3379.43	6	9.4	3.4
704	1040	3412.24	6	6.1	0.1
705	1050	3445.05	6	6	0
706	1060	3477.86	5.9	5.9	0
707	1070	3510.67	5.9	6.3	0.4
708	1080	3543.48	5.9	6.5	0.6
709	1090	3576.29	5.9	6.1	0.2
710a	1100	3609.1	5.9	6.3	0.4
710b	1100	3609.1	5.9	7.3	1.4
711	1110	3641.91	5.9	8	2.1
712	1120	3674.72	5.9	8.2	2.3
713	1130	3707.53	5.9	7.8	1.9
714	1140	3740.34	5.9	7.7	1.8
715	1150	3773.15	5.9	6.9	1
716	1160	3805.96	5.9	6.7	0.8
717	1170	3838.77	5.9	9.6	3.7
718	1180	3871.58	5.9	8.4	2.5
719	1190	3904.39	5.9	7	1.1
720a	1200	3937.2	5.9	6.6	0.7
720b	1200	3937.2	5.9	7.1	1.2
721	1210	3970.01	5.9	7.3	1.4
722	1220	4002.82	5.9	8	2.1
723	1230	4035.63	5.9	10.4	4.5
724	1240	4068.44	5.9	8.2	2.3
725	1250	4101.25	5.9	7.1	1.2
726	1260	4134.06	5.9	12.2	6.3
727	1270	4166.87	5.9	7.3	1.4
728	1280	4199.68	5.9	6.3	0.4
729	1290	4232.49	5.9	6.4	0.5
730a	1300	4265.3	5.9	6.5	0.6
730b	1300	4265.3	5.9	8	2.1
731	1310	4298.11	5.9	8.5	2.6
732	1320	4330.92	5.9	9.2	3.3
733	1330	4363.73	5.9	6.5	0.6
734	1340	4396.54	5.9	10.6	4.7
735	1350	4429.35	5.9	6.3	0.4
736	1360	4462.16	5.9	6.2	0.3
737	1370	4494.97	5.9	6.7	0.8
738	1380	4527.78	5.9	7.1	1.2
739	1390	4560.59	5.9	6.9	1
740a	1400	4593.4	5.9	7.3	1.4
740b	1400	4593.4	5.9	7.2	1.3
741	1410	4626.21	5.9	8.1	2.2
742	1420	4659.02	5.9	6.9	1

Soilgas Data for Traverse 2002-1

743	1430	4691.83	5.9	8.3	2.4	
744	1440	4724.64	5.9	7.4	1.5	
745	1450	4757.45	5.9	5.9	0	
746	1460	4790.26	5.9	7.5	1.6	
747	1470	4823.07	5.9	8	2.1	
748	1480	4855.88	5.9	6.8	0.9	
749	1490	4888.69	6	8.6	2.6	
750a	1500	4921.5	5.9	8.6	2.7	
750b	1500	4921.5	5.9	6.3	0.4	
751	1510	4954.31	5.9	6.1	0.2	Last Sample
Traverse 2002-13					8/8/2002	
Operators;J. Fountain, M. Fountain, T. Nelson, J. Zybala, C. Nochajski, A. Harper						
H2=O.K Batt=8.0 Leak Test=O.K Flow=O.K						
Start at CR 143 & Burdick Rd. Continuation of Traverse 2002-12						
Sample #	Distance (m)	Distance (ft)	bckgrd	peak	net	comments
753	0	0	6	6.9	0.9	
754	10	32.81	6	8.3	2.3	
755	20	65.62	6	6.9	0.9	
756	30	98.43	6	6.8	0.8	
757	40	131.24	5.8	7.2	1.4	Samples look like air
758	50	164.05	5.8	6.6	0.8	but probes are being
759	60	196.86	5.8	6.1	0.3	set very deep not
760a	70	229.67	5.8	5.8	0	twisted or pulled
760b	70	229.67	5.8	5.6	0	before sampling
761	80	262.48	5.8	6.3	0.5	
762	90	295.29	5.8	6.2	0.4	
763	100	328.1	5.8	6	0.2	
764	110	360.91	5.8	6.8	1	
765	120	393.72	5.8	6.5	0.7	
766	130	426.53	5.8	6	0.2	
767	140	459.34	6.1	7.3	1.2	
768	150	492.15	6.1	6.8	0.7	
769	160	524.96	6.1	6.3	0.2	
770a	170	557.77	6	6.3	0.3	
770b	170	557.77	6	6.1	0.1	
771	180	590.58	6.1	6.1	0	
772	190	623.39	6.1	6.1	0	
773	200	656.2	6.1	6.2	0.1	
774	210	689.01	5.9	6.3	0.4	
775	220	721.82	5.9	6.5	0.6	
776	230	754.63	5.9	5.8	0	
777	240	787.44	5.9	6.5	0.6	
778	250	820.25	5.9	5.8	0	
779	260	853.06	5.9	6.3	0.4	
780a	270	885.87	5.9	6.1	0.2	
780b	270	885.87	5.9	6.1	0.2	
781	280	918.68	5.9	6.8	0.9	
782	290	951.49	5.9	7.3	1.4	
783	300	984.3	5.9	6.3	0.4	
784	310	1017.11	5.9	8.4	2.5	
785	320	1049.92	5.9	5.8	0	
786	330	1082.73	5.9	6.5	0.6	

Soilgas Data for Traverse 2002-1

787	340	1115.54	5.9	5.7	0	
788	350	1148.35	5.9	6.4	0.5	
789	360	1181.16	5.9	6.7	0.8	
790a	370	1213.97	5.9	6.2	0.3	
790b	370	1213.97	5.9	5.5	0	
791	380	1246.78	5.9	6.6	0.7	
792	390	1279.59	5.9	6.2	0.3	
793	400	1312.4	5.9	5.8	0	
794	410	1345.21	5.9	7.2	1.3	
795	420	1378.02	5.9	39.5	33.6	Kept
796	430	1410.83	5.9	7.2	1.3	
797	440	1443.64	5.9	6.5	0.6	
798	450	1476.45	5.9	6.5	0.6	
799	460	1509.26	5.9	6.3	0.4	
800a	470	1542.07	5.9	6.2	0.3	
800b	470	1542.07	5.9	7.3	1.4	
801	480	1574.88	5.9	7.5	1.6	
802	490	1607.69	5.9	7.6	1.7	
803	500	1640.5	6.3	7	0.7	
804	510	1673.31	6.3	21.9	15.6	Kept
805	520	1706.12	6.3	6.7	0.4	
806	530	1738.93	6.3	6.7	0.4	
807	540	1771.74	6.3	7.3	1	
808	550	1804.55	6.3	7.6	1.3	
809	560	1837.36	6.3	11.9	5.6	Kept
810a	570	1870.17	6.3	11.7	5.4	
810b	570	1870.17	6.3	8.4	2.1	
811	580	1902.98	6.3	7.6	1.3	
812	590	1935.79	6.3	6.3	0	
813	600	1968.6	6.3	5.9	0	
814	610	2001.41	6.3	9.2	2.9	
815	620	2034.22	6.3	10.9	4.6	
816	630	2067.03	6.3	8.8	2.5	
817	640	2099.84	6.3	8.8	2.5	
818	650	2132.65	6.3	19.6	13.3	Kept
819	660	2165.46	6.3	10.7	4.4	
820a	670	2198.27	6.4	11.8	5.4	Cat Tail Patch
820b	670	2198.27	6.4	8.7	2.3	
821	680	2231.08	6.4	11.3	4.9	
822	690	2263.89	6.4	8.4	2	
823	700	2296.7	6.3	6.8	0.5	
824	710	2329.51	6.3	7.1	0.8	
825	720	2362.32	6.3	6.3	0	
826	730	2395.13	6.3	6.6	0.3	
827	740	2427.94	6.3	15.6	9.3	Kept
828	750	2460.75	6.3	11.7	5.4	Kept
829	760	2493.56	6.3	9.3	3	
830a	770	2526.37	6.3	7.4	1.1	
830b	770	2526.37	6.3	6.9	0.6	
831	780	2559.18	6.3	30.6	24.3	Kept
832	790	2591.99	6.3	6.6	0.3	
833	800	2624.8	6.3	6.6	0.3	
834	810	2657.61	6.3	6.8	0.5	
835	820	2690.42	6.3	7.6	1.3	
836	830	2723.23	6.3	7.4	1.1	
837	840	2756.04	6.3	6.6	0.3	
838	850	2788.85	6.3	11.4	5.1	

Soilgas Data for Traverse 2002-1

839	860	2821.66	6.3	10	3.7	
840a	870	2854.47	6.3	9.6	3.3	
840b	870	2854.47	6.3	7.6	1.3	
841	880	2887.28	6.3	7.2	0.9	
842	890	2920.09	6.3	10.3	4	
843	900	2952.9	6.3	16.1	9.8	Kept
844	910	2985.71	6.3	13.5	7.2	Kept
845	920	3018.52	6.4	6.8	0.4	
846	930	3051.33	6.4	7	0.6	
847	940	3084.14	6.4	7.8	1.4	
848	950	3116.95	6.4	6.8	0.4	
849	960	3149.76	6.4	8.3	1.9	
850a	970	3182.57	6.4	7.4	1	
850b	970	3182.57	6.4	6.8	0.4	
851	980	3215.38	6.4	7	0.6	
852	990	3248.19	6.4	6.9	0.5	
853	1000	3281	6.4	6.3	0	
854	1010	3313.81	6.4	11.8	5.4	
855	1020	3346.62	6.4	14.6	8.2	Kept
856	1030	3379.43	6.4	6.8	0.4	
857	1040	3412.24	6.3	6	0	
858	1050	3445.05	6.3	8.4	2.1	
859	1060	3477.86	6.3	8	1.7	
860a	1070	3510.67	6.3	7.3	1	
860b	1070	3510.67	6.3	6.8	0.5	
861	1080	3543.48	6.3	9.5	3.2	?????
862	1090	3576.29	6.3	7.3	1	
863	1100	3609.1	6.3	7.7	1.4	
864	1110	3641.91	6.3	6.8	0.5	
865	1120	3674.72	6.3	18.3	12	Kept
866	1130	3707.53	6.9	13.8	6.9	
867	1140	3740.34	6.9	7.4	0.5	
868	1150	3773.15	6.9	10.7	3.8	
869	1160	3805.96	6.9	9.1	2.2	
870a	1170	3838.77	6.9	6.8	0	
870b	1170	3838.77	6.9	6.7	0	
871	1180	3871.58	6.9	8.2	1.3	
872	1190	3904.39	6.9	0	0	
873	1200	3937.2	6.9	27.2	20.3	Kept
874	1210	3970.01	6.9	7.5	0.6	
875	1220	4002.82	6.9	37.2	30.3	Kept
876	1230	4035.63	6.9	15.2	8.3	
877	1240	4068.44	6.9	14.5	7.6	
878	1250	4101.25	6.9	16.3	9.4	
879	1260	4134.06	6.9	25.3	18.4	Kept
880a	1270	4166.87	6.9	15	8.1	
880b	1270	4166.87	6.9	10.4	3.5	
881	1280	4199.68	6.9	10.5	3.6	
882	1290	4232.49	6.9	18.1	11.2	Kept
883	1300	4265.3	6.9	14	7.1	
884	1310	4298.11	6.9	8.1	1.2	
885	1320	4330.92	6.9	10	3.1	
886	1330	4363.73	6.6	7.4	0.8	
887	1340	4396.54	6.6	7.6	1	
888	1350	4429.35	6.6	8.9	2.3	
889	1360	4462.16	6.6	0	0	
890a	1370	4494.97	6.6	10.9	4.3	

Soilgas Data for Traverse 2002-1

890b	1370	4494.97	6.6	9.8	3.2	
891	1380	4527.78	6.6	7.6	1	
892	1390	4560.59	6.6	6.6	0	
893	1400	4593.4	6.6	11.6	5	
894	1410	4626.21	6.6	11.5	4.9	
895	1420	4659.02	6.6	7.5	0.9	
896	1430	4691.83	6.6	7.4	0.8	
897	1440	4724.64	6.6	6.8	0.2	
898	1450	4757.45	6.6	6.7	0.1	
899	1460	4790.26	6.6	6.3	0	
900a	1470	4823.07	6.6	6.8	0.2	
900b	1470	4823.07	6.6	5.5	0	
901	1480	4855.88	6.6	0	0	
902	1490	4888.69	6.6	6.6	0	
903	1500	4921.5	6.6	6.8	0.2	
904	1510	4954.31	6.6	6.6	0	
905	1520	4987.12	6.6	8.2	1.6	
906	1530	5019.93	6.6	9.7	3.1	
907	1540	5052.74	6.6	10.4	3.8	
908	1550	5085.55	6.6	13	6.4	
909	1560	5118.36	6.6	81	74.4	Kept
910a	1570	5151.17	6.6	8.4	1.8	
910b	1570	5151.17	6.6	7.9	1.3	
911	1580	5183.98	6.6	23.6	17	
912	1590	5216.79	6.6	6.6	0	Last Sample
Traverse ends at the "T" of Burdick and West Covert Rd.						

Appendices 3.4-2

Soilgas Graphs Year 2002

2002-1 Lodi Center Townline Rd.

2002-2 Arden Rd.

2002-3 County Rd. 142

2002-4 Arden and County 142

2002-5 County 143

2002-6 Arden

2002-7 Rock River Rd.

2002-8A Stout Rd

2002-8B West Covert

2002-8C Burdick

2002-9 W. Covert

2002-10 Trail to Ames Rd.

2002-11 Case Rd.

2002-12 Burdick Rd.

2002-13 Burdick Rd. Ext.

Appendices 3.4-3

Soilgas Lab Analyses Year 2002

Soilgas Lab Analyses for 2002

Laboratory Analysis of Soil Gas Samples							
Column:HayeSep D 6'-18" Mesh 80/100							
Temp:110 C Carrier Gas: 400 Column Head Pressure:2							
Hydrogen:20psi Air:25psi							
Injection amount:1000ul							
Calibration Gas:Methane Time= 0.750				Peak Area=29			
Ethane Time 1.183				Peal Area= 614			
***** Denotes Ethane Present in Sample							
Traverse 2002-1 Lodi Center Rd.							
Sample #0A Lodi Center Rd. (intersection with Seneca Rd.)						6/12/2002	*****
Methane: time=0.767				Peak Area=76			
Ethane: time=1.133				Peak Area= 7			
Sample # 0B Lodi Center Rd. (intersection with Seneca Rd.)							
Methane: time = 0.767						6/12/2002	*****
Ethane: time = 1.167							
Peak Area = 4							
Sample # 54 Lodi Center Rd.							
Methane: time= 0.800				Peak Area= 10		6/12/2002	*****
Ethane:time=2.183				Peak area =7			
Sample # 158 Lodi Center Rd. ????							
Methane:time= 0.817				Peak Area= 4		6/12/2002	*****
Ethane: Time= 2.233				Peak Area= 25			
Sample # 6 Lodi Center Rd.							
Methane Time= 0.783				Peak Area=25		6/12/2002	
Sample # 5 Lodi Center Rd.							
Methane Time=0.767				Peak Area=134		6/12/2002	*****
Ethane Time= 1.167				Peak Area=11			
Sample # 100 Lodi Center Rd.							
Methane Time=0.800				Peak Area=16		6/12/2002	
Sample # 75 Lodi Center Rd.							
Methane Time=0.767				Peak Area= 35		6/12/2002	
Sample # 3 Lodi Center Rd.							
Methane Time=0.800				Peak Area=16		6/12/2002	*****
Ethane Time=2.250				Peak Area= 14			
Sample #2 Lodi Center Rd.							
Methane Time=0.817				Peak Area=6		6/12/2002	
Sample # 35 Lodi Center Rd.							
Methane Time= 0.767				Peak Area=45		6/12/2002	
Sample # 55 Lodi Center Rd							
Methane Time= 0.783				Peak Area= 34		6/12/2002	*****
Ethane Time= 2.217				Peak Area= 6			
Sample # 59 Lodi Center Rd.							

Soilgas Lab Analyses for 2002

	Methane Time= 0.783		Peak Area=33		6/12/2002	*****
	Ethane Time=2.183		Peak Area= 6			
Sample # 64 Lodi Center Rd.						
	Methane Time= 0.767		Peak Area=30		6/12/2002	
Sample # 1 Lodi Center Rd.						
	Methane Time=0.800		Peak Area=11		6/12/2002	*****
	Ethane Time=2.267		Peak Area= 12			
Column: HaySep D	6'-1/8"	Mesh:80/100				
Temp: 110'C		Carrier Gas:400	column Head Pressure:2			
Hydrogen @28 psi		Air@ 19psi				
Injection amount: 1000ul						
Calibration Gas: Methane		time 0.817	peak=0.817			
***** Denotes Ethane Present in Sample						
Traverse 2002-2 South on Arden Rd.						
Sample # 174 Arden Rd						
	Methane: Time=0.783		Peak Area=83		6/12/2002	*****
	Ethane: Time= 1.200		Peak Area= 9			
Sample # 175 Arden Rd.					6/12/2002	
	Methane: Time=0.800		Peak=42			
Sample # 155 Arden Rd.					6/12/2002	*****
	Methane: Time=0.767		Peak=326			
	Ethane Time= 0.767		Peak=56			
Sample # 210a Arden Rd.					6/12/2002	*****
	Methane: Time=0.750		Peak=118			
	Ethane:Time=1.1509		Peak=23			
Sample # 168 Arden Rd.					6/12/2002	
	Methane: Time=0.783		Peak =94			
Sample # 149 Arden Rd.					6/12/2002	*****
	Methane:Time=0.783		Peak= 232			
	Ethane:Time=1.167		Peak= 78			
Sample # 160b Arden Rd.					6/12/2002	*****
	Methane:Time=0.783		Peak=121			
	Ethane:Time=1.167		Peak =37			
Sample # 255 Arden Rd.					6/12/2002	*****
	Methane: Time=0.783		Peak=90			
	Ethane: Time=1.20		Peak=36			
Sample # 150a Arden Rd.					6/12/2002	
	Methane: Time=0.783		Peak=118			
Sample # 164 Arden Rd.					6/12/2002	*****
	Methane: Time=0.767		Peak=234			
	Ethane:Time=1.167		Peak=47			

Soilgas Lab Analyses for 2002

Sample # 235 Arden Rd.				6/12/2002	
	Methane: Time=0.783		Peak=63		
Sample # 154 Arden Rd.				6/12/2002	
	Methane: Time=0.750		Peak=729		
Sample # 152 Arden Rd.				6/12/2002	
	Methane: Time=0.783		Peak=63		
Sample # 167 Arden Rd.				6/12/2002	*****
	Methane: Time=0.783		Peak=210		
	Ethane: Time=1.150		Peak=41		
Sample # 191 Arden Rd.				6/12/2002	
	Methane: Time=0.750		Peak=67		
Sample # 218 Arden Rd.				6/12/2002	*****
	Methane: Time=0.750		Peak=99		
	Ethane: Time=1.133		Peak=99		
Sample # 274 Arden Rd.				6/12/2002	*****
	Methane: Time=0.717		Peak=0.717		
	Ethane: Time=1.117		Peak=23		
Sample # 247 Arden Rd.				6/12/2002	*****
	Methane: Time=0.717		Peak=312		
	Ethane: Time=1.100		Peak=19		
Sample # 227 Arden Rd.				6/12/2002	*****
	Methane: Time=0.733		Peak=61		
	Ethane: Time=1.117		Peak=2		
Sample # 107 Arden Rd.(across from large gas rig).				6/12/2002	*****
	Methane: Time=0.717		Peak=50		
	Ethane: Time=1.117		Peak=3		
Sample # 143 Arden Rd.				6/12/2002	*****
	Methane: Time=0.733		Peak=192		
	Ethane: time=1.150		Peak=27		
Sample # 198 Arden Rd.				6/12/2002	
	Methane: Time=0.750		Peak=77		
Sample # 142 Arden Rd.				6/12/2002	
	Methane: Time=0.750		Peak=54		
Sample # 187 Arden Rd.				6/12/2002	*****
	Methane: Time=0.717		Peak=90		
	Ethane: Time=1.117		Peak=90		
Sample # 64 Arden Rd.				6/12/2002	
	Methane: Time=0.717		Peak=9		
Sample # 84 Arden Rd.				6/12/2002	
	Methane: Time=0.750		Peak=36		

Soilgas Lab Analyses for 2002

Sample # 75 Arden Rd.					6/12/2002	
	Methane: Time=0.767		Peak=15			
Sample # 125 Arden Rd.						
	Methane: Time=0.733		Peak=342		6/12/2002	*****
	Ethane: Time=1.133		Peak=342			
Sample #76 Arden Rd.					6/12/2002	*****
	Methane Time:=0.750		Peak=325			
	Ethane: Time= 1.133		Peak=48			
Sample # 194 Arden Rd.						
	Methane: time=0.717		Peak=325		6/12/2002	*****
	Ethane: Time=1.117		Peak=48			
Sample # 20a Arden Rd.						
	Methane: Time=0.733		Peak=57		6/12/2002	
Sample # 146 Arden Rd.						
	Methane: Time=0.717		Peak=93		6/12/2002	*****
	Ethane: Time=1.100		Peak=8			
Sample # 121 Arden Rd.						
	Methane: Time=0.750		Peak=54		6/12/2002	*****
	Ethane: Time=1.133		Peak=9			
Sample # 48 Arden Rd.						
	Methane: Time=0.733		Peak=18		6/12/2002	
Sample # 141 Arden Rd.						
	Methane: time=0.717		Peak=122		6/12/2002	*****
	Ethane: Time=1.100		Peak=19			
Sample # 140a Arden Rd.						
	Methane: Time=0.733		Peak=104		6/12/2002	*****
	Ethane: Time=1.117		Peak=1.100			
Sample # 130b Arden Rd.						
	Methane: Time=0.750		Peak=82		6/12/2002	*****
	Ethane: Time=1.150		Peak=10			
Sample # 80b Arden Rd.						
	Methane: Time=0.767		Peak=44		6/12/2002	
Sample # 49 Arden Rd.						
	Methane: Time=0.750		Peak=194		6/12/2002	
Sample # 30b Arden Rd.						
	Methane=0.750		Peak=40		6/12/2002	
Sample # 8 Arden rd.						
	Methane: Time=0.783		Peak=2		6/12/2002	
Sample # 74 Arden Rd.						
	Methane: Time=0.750		Peak=112		6/12/2002	

Soilgas Lab Analyses for 2002

Sample # 37 Arden Rd.							
	Methane: Time=0.750		Peak=62			6/12/2002	
Sample # 99 Arden Rd.							
	Methane: Time=0.750		Peak=63			6/12/2002	
Sample # 77 Arden Rd.							
	Methane: Time=0.750		Peak= 108			6/12/2002	*****
	Ethane : Time=1.133		Peak= 5				
Sample # 88 Arden Rd.							
	Methane: Time=0.767		Peak=42			6/12/2002	*****
	Ethane: Time=1.133		Peak=2				
Sample # 81 Arden Rd.							
	Methane: Time=0.733		Peak=137			6/12/2002	*****
	Ethane: Time=1.133		Peak=24				
Sample # 20b							
	Methane: Time=0.733		Peak=69			6/12/2002	
Sample # 30a							
	Methane: Time=0.733		Peak=79			6/12/2002	*****
	Ethane: Time=1.133		Peak= 16				
Sample # 108							
	Methane: time=0.750		Peak=79			6/12/2002	*****
	Ethane: Time=1.133		Peak=16				
Sample # 34 Arden Rd.							
	Methane: Time= 0.750		Peak=178			6/12/2002	*****
	Ethane: Time=1.150		Peak=13				
Sample # 66 Arden Rd.							
	Methane: Time= 0.783		Peak=27			6/12/2002	
Sample # 26 Arden Rd							
	Methane: Time=0.750		Peak=59			6/12/2002	
Sample # 86 Arden Rd.							
	Methane: Time=0.750		Peak=43			6/12/2002	
Sample # 13 Arden							
	Methane: Time=0.767		Peak=60			6/12/2002	
Column: HaySep D 6'-1/8" Mesh:80/100							
Temp: 110°C		Carrier Gas:400		Column Head Pressure:2			
Hydrogen @28 psi		Air@ 19psi					
Injection amount: 1000ul							
Calibration Gas: Methane		time 0.817		peak=534			
***** Denotes Ethane Present in Sample							
Traverse 2002-3 County Rd. 142							
Sample # 249 County Rd. 142						6/28/2002	
	Methane: Time=0.767			Peak=23			

Soilgas Lab Analyses for 2002

Sample # 252 County Rd. 142							
	Methane: Time=0.783		Peak=91			6/28/2002	
Sample # 214 County rd. 142							
	Methane: Time=0.783		Peak= 71			6/28/2002	
Sample # 13 County Rd. 142							
	Methane: Time= 0.767		Peak= 223			6/28/2002	*****
	Ethane: Time= 1.183		Peak=48				
Sample # 151 County Rd. 142							
	Methane: Time=0.783		Peak=148			6/28/2002	*****
	Ethane: Time= 1.183		Peak= 23				
Sample # 257 County Rd. 142							
	Methane: Time= 0.800		Peak= 61			6/28/2002	
Sample # 237 County Rd. 142							
	Methane: Time= 0.783		Peak=61			6/28/2002	
Sample # 18 county Rd. 142							
	Methane: Time= 0.783		Peak= 51			6/28/2002	*****
	Ethane: Time= 1.167		Peak=6				
Sample # 226 County Rd.							
	Methane: Time=0.783		Peak=104			6/28/2002	*****
	Ethane: Time= 1.200		Peak=18				
Sample # 14 County Rd. 142							
	Methane: Time= 0.783		Peak=180			6/28/2002	*****
	Ethane: Time=1.183		Peak=6				
Sample # 89 County Rd. 142							
	Methane: Time=0.783		Peak= 72			6/28/2002	
Sample # 159 County rd. 142							
	Methane: Time= 0.800		Peak=72			6/28/2002	*****
	Ethane: Time=1.183		Peak=13				
Sample # 261 County Rd. 142							
	Methane: Time=0.767		Peak=83			6/28/2002	*****
	Ethane: Time=1.183		Peak=31				
Sample # 31 County rd. 142							
	Methane: Time= 0.800		Peak=36			6/28/2002	
Sample # 162 county Rd. 142							
	Methane: Time=0.800		Peak=20			6/28/2002	
Sample # 227 County Rd. 142							
	Methane: Time=0.783		Peak=124			6/28/2002	*****
	Ethane: Time= 1.183		Peak=47				
Sample # 243 County Rd. 142							
	Methane: Time= 0.783		Peak=71			6/28/2002	*****

Soilgas Lab Analyses for 2002

	Ethane: time=1.167		Peak= 25				
Sample # 168 County Rd.							
	Methane Time=0.800		Peak= 68			6/28/2002	
Sample # 192 County Rd. 142							
	Methane: Time= 0.783		Peak= 116			6/28/2002	*****
	Ethane: Time= 1.167		Peak=40				
Sample # 65 County Rd. 142							
	Methane: Time=0.783		Peak= 43			6/28/2002	
Sample # 170a County Rd. 142							
	Methane: Time= 0.783		Peak=115			6/28/2002	*****
	Ethane: time= 1.167		Peak=56				
Sample # 115 County Rd. 142							
	Methane: Time= 0.783		Peak=116			6/28/2002	
Sample # 26 County Rd. 142							
	Methane: Time=0.783		Peak= 140			6/28/2002	
Sample # 148 County Rd. 142							
	Methane: Time=0.783		Peak=165			6/28/2002	
Sample # 161 County Rd. 142							
	Methane: Time= 0.750		Peak=67			6/28/2002	
Sample # 232 County Rd. 142							
	Methane:= 0.700		Peak=78			6/28/2002	*****
	Ethane:=1.083		Peak=9				
Sample # 174 County Rd. 142							
	Methane:= 0.717		Peak=35			6/28/2002	
Sample # 228 County Rd. 142							
	Methane:= 0.717		Peak=35			6/28/2002	
Sample # 247 County Rd. 142							
	Methane:= 0.733		Peak=35			6/28/2002	
Sample # 146 County Rd. 142							
	Methane:=0.717		Peak=93			6/28/2002	*****
	Ethane:=1.100		Peak=8				
Column: HaySep D	6'-1/8"	Mesh:80/100					
Temp: 110'C	Carrier Gas:400	column Head Pressure:2					
Hydrogen @28 psi	Air@ 19psi						
Injection amount: 1000ul							
Calibration Gas: Methane	time 0.817	peak=534					
***** Denotes Ethane Present in Sample							
Traverse 2002-4 Covert Rd							
Sample # 403 Covert Rd.							
	Methane:Time=0.750		Peak 70			6/28/2002	*****

Soilgas Lab Analyses for 2002

	Ethane: Time=1.133		Peak=20				
Sample # 430a	Covert Rd.						
	Methane: Time=0.867		Peak=5			6/28/2002	
Sample # 490b	Covert Rd.						
	Methane: Time=0.767		Peak= 100			6/28/2002	
Sample # 544	Covert Rd.						
	Methane: Time=0.750		Peak= 142			6/28/2002	
Sample # 468	Covert Rd.						
	Methane: time= 0.767		Peak=610			6/28/2002	*****
	Ethane: Time=1.167		Peak=154				
Sample # 404	Covert Rd.						
	Methane: Time= 0.783		Peak=200			6/28/2002	*****
	Ethane: Time=1.183		Peak=32				
Sample # 422	Covert Rd.						
	Methane: time= 0.767		Peak=119			6/28/2002	*****
	Ethane: Time=1.167		Peak=6				
Sample # 460a	Covert Rd.						
	Methane: Time= 0.783		Peak=8			6/28/2002	
Column: HaySep D	6'-1/8"	Mesh:80/100					
Temp: 110°C	Carrier Gas:400	column Head Pressure:2					
Hydrogen @28 psi	Air@ 19psi						
Injection amount: 1000ul							
Calibration Gas: Methane	time 0.817	peak=534					
***** Denotes Ethane Present in Sample							
Traverse 2002-5	County Rd. 143						
Sample # 682	County Rd.(west of bridge)						
	Methane: Time=0.767		Peak=67			6/28/2002	*****
	Ethane: Time=0.767		Peak=141				
Sample # 693	County Rd						
	Methane: Time=0.767		Peak=141			6/28/2002	
Sample # 683	County Rd.						
	Methane: Time=0.750		Peak=88			6/28/2002	
Sample # 680b	County Rd.						
	Methane: Time=0.767		Peak=60			6/28/2002	
Sample # 642	County Rd.						
	Methane: Time=0.767		Peak=55			6/28/2002	*****
	Ethane: time=1.133		Peak= 23				
Sample # 739	County Rd.						
	Methane: time= 0.767		Peak=77			6/28/2002	
Sample # 615	County Rd.						

Soilgas Lab Analyses for 2002

	Methane: Time= 0.767	Peak=73		6/28/2002	*****
	Ethane: Time=1.150	Peak=8			
Sample # 713 County Rd.					
	Methane: Time=0.7667	Peak=64		6/28/2002	*****
	Ethane: Time=1.150	Peak=5			
Sample # 622 County Rd.					
	Methane: Time=0.750	Peak=323		6/28/2002	*****
	Ethane: Time=1.150	Peak=18			
Sample # 737 County Rd.					
	Methane: Time=0.767	Peak=100		6/28/2002	*****
	Ethane: Time=1.150	Peak=4			
Sample # 714 County Rd.					
	Methane: Time=0.800	Peak=37		6/28/2002	*****
	Ethane: Time=1.150	Peak=6			
Sample # 700a County Rd.					
	Methane: Time=0.783	Peak=39		6/28/2002	*****
	Ethane: Time=1.167	Peak=5			
Sample # 631 County Rd.					
	Methane: Time=0.783	Peak=58		6/28/2002	
Sample # 662 County Rd.					
	Methane: Time=0.767	Peak=70		6/28/2002	
Sample # 689 County Rd.					
	Methane: Time= 0.767	Peak=360		6/28/2002	*****
	Ethane: Time=1.167	Peak=22			
Sample # 684 County Rd.					
	Methane: Time=0.767	Peak=116		6/28/2002	*****
	Ethane: Time= 1.183	Peak=8			
Sample # 601 County Rd.					
	Methane: Time= 0.767	Peak=106		6/28/2002	
Sample # 611 County Rd.					
	Methane: Time=0.767	Peak=96		6/28/2002	*****
	Ethane: Time=1.150	Peak=16			
Sample # 686 County Rd.					
	Methane: Time= 0.767	Peak=246		6/28/2002	*****
	Ethane: Time=1.167	Peak=13			
Sample # 680a County Rd.					
	Methane: Time=0.767	Peak=140		6/28/2002	
Sample # 690a County Rd.					
	Methane: Time=0.767	Peak=98		6/28/2002	
Sample # 692 County Rd.					
	Methane: Time=0.750	Peak=387		6/28/2002	*****

Soilgas Lab Analyses for 2002

	Ethane: Time=1.167		Peak=5				
Sample # 604 Country Rd.							
	Methane: Time=0.767		Peak= 77		6/28/2002	*****	
	Ethane:Time= 1.159		Peak=10				
Column: HaySep D	6'-1/8"	Mesh:80/100					
Temp: 110°C		Carrier Gas:400	column Head Pressure:2				
Hydrogen @28 psi	Air@ 19psi						
Injection amount: 1000ul							
Calibration Gas: Methane		time 0.817	peak=534				
***** Denotes Ethane Present in Sample							
Traverse 2002-6 Arden Rd. Headed North							
Sample # 819 Arden Rd.							
	Methane:Time=0.767		Peak=31		6/28/2002		
Sample # 860a Arden Rd.							
	Methane: Time=0.750		Peak=221		6/28/2002		
Sample # 852 Arden Rd.							
	Methane: Time=0.767		Peak=61		6/28/2002		
Sample # 879 Arden Rd.							
	Methane: Time= 0.700		Peak=697		6/28/2002		
Sample # 863							
	Methane: =0.733		Peak=1975		6/28/2002		
Sample # 862							
	Methane: Time= 0.717		Peak=509		6/28/2002		
Sample # 880a							
	Methane: Time=0.733		Peak=76		6/28/2002	*****	
	Ethane: Time=1.100		Peak=9				
Sample # 873							
	Methane: Time= 0.750		Peak=96		6/28/2002	*****	
	Ethane: Time=1.133		Peak=12				
Sample # 883							
	Methane: Time=0.750		Peak=106		6/28/2002	*****	
	Ethane: Time=1.117		Peak=12				
Sample # 925 Arden Rd							
	Methane: Time=0.750		Peak=52		6/28/2002		
Sample # 891 Arden Rd.							
	Methane: Time= 0.750		Peak=77		6/28/2002	*****	
	Ethane: Time=1.150		Peak=13				
Column: HaySep D	6'-1/8"	Mesh:80/100					
Temp: 110°C		Carrier Gas:400	column Head Pressure:2				
Hydrogen @28 psi	Air@ 19psi						
Injection amount: 1000ul							

Soilgas Lab Analyses for 2002

Calibration Gas: Methane		time 0.817	peak=534			
***** Denotes Ethane Present in Sample						
Travers 2002-7 Lodi Center Rd.						
Sample # 235 Lodi Center Rd.(6m north of pole L923)						
	Methane: Time=0.767		Peak=25		7/12/2002	
Sample # 241 Lodi Center Rd.(north of mailbox 9409)						
	Methane: Time=0.750		Peak=338		7/12/2002	*****
	Ethane: Time= 1.017		Peak= 19			
Sample # 198 Lodi Center Rd.						
	Methane: Time=0.750		Peak=30		7/12/2002	
Sample # 242 Lodi Center Rd.						
	Methane: Time= 0.750		Peak=108			
Sample # 416 Lodi Center Rd.						
	Methane: Time= 0.767		Peak=11		7/12/2002	
Sample # 88 Lodi Center Rd.						
	Methane: Time= 0.767		Peak=15		7/12/2002	
Sample # 85 Lodi Center Rd.						
	Methane: Time= 0.767		Peak=34		7/12/2002	
Sample # 128 Lodi Center Rd.						
	Methane: Time=0.783		Peak=14		7/12/2002	
Sample # 86 Lodi Center Rd.						
	Methane: Time= 0.767		Peak=27		7/12/2002	
Sample # 236 Lodi Center Rd.						
	Methane: Time=0.767		Peak=18		7/12/2002	
Sample # 115 Lodi Center Rd.						
	Methane: Time=0.750		Peak=9		7/12/2002	
Column: HaySep D	6'-1/8"	Mesh:80/100				
Temp: 110°C	Carrier Gas:400	column Head Pressure:2				
Hydrogen @28 psi	Air@ 19psi					
Injection amount: 1000ul						
Calibration Gas: Methane		time 0.817	peak=534			
***** Denotes Ethane Present in Sample						
Traverse 2002-8 Stout Rd To Burdick Running south						
Sample # 421 Stout Rd.(pole 5)						
	Methane: Time= 0.733		Peak=539		7/12/2002	*****
	Ethane: Time=1.117		Peak=72			
Sample # 358 Stout Rd.						
	Methane: Time=0.750		Peak=61		7/12/2002	
Sample # 386 Stout Rd.						

Soilgas Lab Analyses for 2002

	Methane: Time=0.750	Peak=102	7/12/2002	
Sample # 401 Stout Rd.				
	Methane: Time=0.767	Peak=9	7/12/2002	
Sample # 404 Stout Rd				
	Methane=0.733	Peak=185	7/12/2002	*****
	Ethane=1.133	Peak=42		
Sample # 359 Stout Rd.				
	Methane: Time=0.767	Peak=37	7/12/2002	
Sample # 397 Stout Rd.				
	Methane: Time=0.767	Peak=11	7/12/2002	
Sample # 396 Stout Rd.				
	Methane: Time=0.750	Peak=112	7/12/2002	
Sample # 340 Stout Rd.				
	Methane: time=0.767	Peak=10	7/12/2002	
Sample # 346				
	Methane: time=0.750	Peak=98	7/12/2002	
Sample # 337				
	Methane: Time=0.750	Peak=10	7/12/2002	
Sample # 307 Stout Rd.				
	Methane: 0.750	Peak=228	7/12/2002	
Sample # 416 Stout Rd.				
	Methane: Time=0.767	Peak=11	7/12/2002	
Sample # 654 Stout Rd.				
	Methane: Time=0.750	Peak=464	7/12/2002	
Sample # 814				
	Methane: Time=0.733	Peak=186	7/12/2002	
Sample # 601				
	Methane: Time=0.733	Peak=61	7/12/2002	
sample # 638				
	Methane: Time=0.767	Peak=25	7/12/2002	
Sample # 699				
	Methane: Time=0.767	Peak=8	7/12/2002	
Sample # 703				
	Methane: Time=0.767	Peak=16	7/12/2002	
Sample # 627				
	Methane: Time=0.733	Peak=16	7/12/2002	
Sample # 622				
	Methane: Time=0.767	Peak=61	7/12/2002	

Soilgas Lab Analyses for 2002

Sample # 815								
	Methane: Time=0.750			Peak=136			7/12/2002	
Sample # 653								
	Methane: Time=0.767			Peak=17			7/12/2002	
Sample # 816								
	Methane: Time=0.733			Peak=871			7/12/2002	
Sample # 610								
	Methane: Time=0.750			Peak=12			7/12/2002	
Sample # 605								
	Methane: Time=0.750			Peak=12			7/12/2002	
Sample # 812								
	Methane: Time=0.767			Peak=29			7/12/2002	
Sample #670a								
	Methane: Time=0.733			Peak=1984			7/12/2002	
Sample # 670b								
	Methane: Time=0.750			Peak=521			7/12/2002	*****
	Ethane: Time=1.130			Peak=3560				
Column: HaySep D		6'-1/8"	Mesh:80/100					
Temp: 110°C		Carrier Gas:400		column Head Pressure:2				
Hydrogen @28 psi		Air@ 19psi						
Injection amount: 1000ul								
Calibration Gas: Methane			time 0.817		peak=534			
***** Denotes Ethane Present in Sample								
Traverse 2002-9 West Covert Rd.								
Sample # 1075 West Cover Rd.								
	Methane: Time=0.733			Peak=31			7/12/2002	
Sample # 1025 West covert Rd.								
	Methane: Time=0.717			Peak=59			7/12/2002	
Sample # 1299 West Covert Rd.								
	Methane: Time=0.733			Peak=10			7/12/2002	
Sample # 1083 West Covert Rd.								
	Methane: Time=0.733			Peak=15			7/12/2002	
sample # 1236 West covert Rd.								
	Methane: Time=0.750			Peak=23			7/12/2002	
Sample # 1095 West Covert Rd.								
	Methane: Time=0.750			Peak=15			7/12/2002	
Sample # 1030 West covert Rd.								
	Methane: Time=0.750			Peak=16			7/12/2002	

Soilgas Lab Analyses for 2002

sample # 1176 West Covert Rd.						
	Methane: time=0.733		Peak=32		7/12/2002	
Sample # 1170a West covert Rd.						
	Methane: Time=0.733		Peak=38		7/12/2002	
Sample # 1021 West Covert rd.						
	Methane: Time=0.750		Peak=891		7/12/2002	*****
	Ethane:Time=1.133		Peak=1.39			
Column: HaySep D	6'-1/8"	Mesh:80/100				
Temp: 110'C		Carrier Gas:400	column Head Pressure:2			
Hydrogen @28 psi		Air@ 19psi				
Injection amount: 1000ul						
Calibration Gas: Methane		time 0.817	peak=534			
***** Denotes Ethane Present in Sample						
Traverse 2002-10 Trail to Ames Rd.						
sample # 54 Trail	Peak??					
sample # 82 Trail						
	Methane: Time=0.983		Peak=7		8/8/2002	
	No ethane					
sample # 97 Trail						
	Methane: Time=0.967		Peak=8		8/8/2002	
	No ethane					
sample # 149 Trail						
	Methane: Time=0.967		Peak=9		8/8/2002	
	No ethane					
Column: HaySep D	6'-1/8"	Mesh:80/100				
Temp: 110'C		Carrier Gas:400	column Head Pressure:2			
Hydrogen @28 psi		Air@ 19psi				
Injection amount: 1000ul						
Calibration Gas: Methane		time 0.817	peak=534			
***** Denotes Ethane Present in Sample						
Traverse 2002-11 Vesa Rd.						
sample # 202 Vesa Rd.						
	Methane: Time=0.967		Peak=16		8/8/2002	
	No ethane					
Sample # 212						
	Methane: Time=0.95		Peak=29		8/8/2002	*****
	Ethane: Time=1.43		Peak=10			
sample # 232 Vesa Rd.						
	Methane: Time=0.95		Peak=27		8/8/2002	
	No ethane					

Soilgas Lab Analyses for 2002

sample # 258							
	Methane: Time=0.95		Peak=21			8/8/2002	
	No ethane						
sample # 271							
	Methane: Time=0.95		Peak=34			8/8/2002	
	No ethane						
sample # 272							
	Methane: Time=0.95		Peak=11			8/8/2002	
	No ethane						
Sample # 276							
	Methane: Time=0.95		Peak=26			8/8/2002	*****
	Ethane: Time=1.4		Peak=3				
Sample # 277							
	Methane: Time=0.95		Peak=31			8/8/2002	
	No Ethane						
Sample # 290a							
	Methane: Time=0.983		Peak=7			8/8/2002	
	No Ethane						
Sample # 332							
	Methane: Time=0.967		Peak=29			8/8/2002	
	No Ethane						
Sample # 339							
	Methane: Time=0.917		Peak=55			8/8/2002	*****
	Ethane: Time=1.4		Peak=19				
Sample # 343							
	Methane: Time=0.95		Peak=53			8/8/2002	
	No Ethane						
Sample # 349							
	Methane: Time=0.883		Peak=78			8/8/2002	*****
	Ethane: Time=1.38		Peak=15				
Sample # 405							
	Methane: Time=0.967		Peak=26			8/8/2002	
	No Ethane						
Sample # 420b							
	Methane: Time=0.95		Peak=26			8/8/2002	
	No Ethane						
Sample # 422							
	Methane: Time=0.967		Peak=38			8/8/2002	
	No Ethane						
Sample # 423							
	Methane: Time=0.933		Peak=315			8/8/2002	****
	Trace Ethane						

Soilgas Lab Analyses for 2002

Sample # 424								
	Methane: Time=0.917			Peak=228			8/8/2002	*****
	Ethane: Time=1.417			Peak=10				
Sample # 426								
	Methane: Time=0.933			Peak=71			8/8/2002	****
	Trace Ethane							
Sample # 428								
	Methane: Time=0.917			Peak=171			8/8/2002	*****
	Ethane: Time=1.38			Peak=16				
Column: HaySep D	6'-1/8"	Mesh:80/100						
Temp: 110°C	Carrier Gas:400	column Head Pressure:2						
Hydrogen @28 psi	Air@ 19psi							
Injection amount: 1000ul								
Calibration Gas: Methane	time 0.817	peak=534						
***** Denotes Ethane Present in Sample								
Traverse 2002-12 Burdick Rd. Heading North								
No Samples Collected to be tested								
Column: HaySep D	6'-1/8"	Mesh:80/100						
Temp: 110°C	Carrier Gas:400	column Head Pressure:2						
Hydrogen @28 psi	Air@ 19psi							
Injection amount: 1000ul								
Calibration Gas: Methane	time 0.817	peak=534						
***** Denotes Ethane Present in Sample								
Traverse 2002-13 Burdick Rd. Ext.								
Sample # 795								
	Methane: Time=0.9			Peak=265			8/8/2002	*****
	Ethane: Time=1.38			Peak=24				
Sample # 804								
	Methane: Time=0.933			Peak=133			8/8/2002	*****
	Ethane: Time=1.4			Peak=4				
sample # 809 Burdick Rd.								
	Methane: Time=0.950			Peak=27			7/12/2002	
	No ethane							
Sample # 818								
	Methane: Time=0.917			Peak=118			8/8/2002	*****
	Ethane: Time=1.4			Peak=20				
Sample # 827								
	Methane: Time=0.95			Peak=64			8/8/2002	
	No Ethane							
Sample # 828								
	Methane: Time=0.93			Peak=16			8/8/2002	

Soilgas Lab Analyses for 2002

	No Ethane							
Sample # 831								
	Methane: Time=0.93		Peak=152			8/8/2002	*****	
	Ethane: Time=1.4		Peak=61					
Sample # 843								
	Methane: Time=0.95		Peak=54			8/8/2002		
	No Ethane							
Sample # 844								
	Methane: Time=0.95		Peak=40			8/8/2002		
	No Ethane							
Sample # 855								
	Methane: Time=0.917		Peak=41			8/8/2002	*****	
	Trace Ethane							
Sample # 865								
	Methane: Time=0.93		Peak=66			8/8/2002		
	No Ethane							
Sample # 873								
	Methane: Time=0.917		Peak=152			8/8/2002		
	No Ethane							
Sample # 875								
	Methane: Time=0.917		Peak=232			8/8/2002	*****	
	Ethane: Time=1.4		Peak=31					
Sample # 879								
	Methane: Time=0.90		Peak=141			8/8/2002	*****	
	Ethane: Time=1.4		Peak=17					
Sample # 882								
	Methane: Time=0.95		Peak=67			8/8/2002	*****	
	Ethane: Time=1.417		Peak=6					
Sample # 909								
	Methane: Time=0.93		Peak=701			8/8/2002	*****	
	Ethane: Time=1.417		Peak=27					