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PHASE II INTERIM REPORT: ASSESSMENT OF HYDROCARBON SEEPAGE DETECTION METHODS ON THE FORT PECK RESERVATION, NORTHEAST MONTANA

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By
Lawrence M. Monson

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Poplar, Montana

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Assessment of Hydrocarbon Seepage Detection Methods on the Fort Peck Reservation, Northeast Montana

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ABSTRACT

This is the third semi-annual Technical Progress Report for DOE Grant No. DE-FG-26-00BC15192 entitled *"Assessment of Hydrocarbon Seepage on Lands Belonging to Ft. Peck Tribes: Soil Geochemistry Application on Aeromagnetic, Landsat Lineament, and 3D Seismic Anomalies"*. In the third, six month time period, the principle contractor for the project, the Assiniboine and Sioux Tribes, performed the following work: 1) Collected reconnaissance micro-magnetic data and background field data for Area 1, 2) Identified and collected soil sample data in three anomalous regions of Area 1, 3) Sampled soils in Northwest Poplar Oil Field, 4) Graphed, mapped, and interpreted all data areas listed above, 5) Registered for the AAPG Penrose Conference on Hydrocarbon Seepage Mechanisms and Migration (postponed from 9/16/01 until 4/7/02 in Vancouver, B.C. Results include the identification and confirmation of an oil and gas prospect in the northwest part of Area 1 and the verification of a potential shallow gas prospect in the West Poplar Area. Correlation of hydrocarbon micro-seepage to TM tonal anomalies needs further data analysis.

Part 1

PHASE II INTERIM REPORT
Fort Peck Reservation Assessment
Semi-Annual Progress Report #3

By Lawrence M. Monson

INTRODUCTION

Satellite image tonal anomalies mapped above the Smoke Creek Aeromagnetic Anomaly may represent vegetative and soil geochemical changes caused by the micro-seepage of hydrocarbons. Phase I of the DOE Grant #DE-FG26-00BC15192, "Assessment of Hydrocarbon Seepage on Fort Peck: A Comparison of Surface Exploration Techniques" sampled soils above a known oil field and a 3D seismic anomaly. [See semi-annual reports 15192R1 (Monson, 2000) and 15192R2 (Monson, 2001)]. Selected methods from Phase I were applied to the Smoke Creek Area after a reconnaissance micro-magnetic survey identified anomalous sites. Further statistical and geographic correlation is needed to determine whether the tonal anomalies are caused by hydrocarbon seepage. The micro-magnetic survey did locate a hydrocarbon prospect, which was confirmed by the selected surface exploration methods. These methods also confirmed the presence of Methane above a shallow gas prospect. The report that follows primarily presents data acquired during the past field season. Initial observations and comparisons are made. Final interpretations will be made in future reports.

EXECUTIVE SUMMARY

Phase II of the Fort Peck Tribes project to "Assess Hydrocarbon Seepage on the Reservation utilizing surface exploration techniques" applied the methods, which best correlated to the areas sampled in Phase I. The Head Gas method correlated well to production in the Palomino Oil Field (Area 6) and to 3D seismic anomalies in the Wicape Prospect (Area 7). Because the Tribes acquired Soil Gas chromatograph equipment, this method was also continued. The Non-gas, indirect hydrocarbon detection methods retained, were Microbial and Iodine. The Head Gas lab also provides Eh, pH, and K data at little extra charge.

Phase II fieldwork covered the principle reason for this entire study. In 1993 the author published a paper with George Shurr, which focused on the overwhelming set of surface and sub-surface geologic evidence that the Smoke Creek Aeromag Anomaly mapped a subsurface body of tremendous significance. Fold axes, stratigraphic deposition, regional dip, salt dissolution, topographic relief, drainage, soils, satellite lineament/fault blocks, and finally, curved tonal anomalies, all concentrate or hinge on what is buried beneath the eastern plains of the Fort Peck Reservation. A logical explanation of the curvilinears is that they represent hydrocarbon micro-seepage chimneys (Land, 1991).

See Figures 2-15 for background maps summarizing these observations.

Because of the size of Area 1 (9 townships) and because of the chimney model, Mr. Land was contracted to conduct a micro-magnetic survey using a Magnetic Susceptibility (MS) meter. His interpretations are not yet available and will follow in the next semi-annual report. MS profiles and maps reveal a complicated data distribution that cannot be correlated to Landsat curvilinears at the scale presented. Three anomalous areas were found, two, which are outside the SC Mag Anomaly. One proved to also have high "background" gas values, which were confirmed by denser Sampling. Site 26, as it is named, is a valid oil prospect although may be structurally low. It does point to hydrocarbons in the area of a 3D defined structure. See Figures 7, 73, and 82 for Site 26 maps.

Hydrocarbons were not confirmed in the other two anomalous MS areas. This report compares the two methods to the other non-gas methods employed. Microbial and Iodine techniques continue to have merit although not always directly or consistently with the Head Gas method.

Phase II also detected Methane near a proposed shallow gas project. Results were inconclusive and Methane's utility, as a surface hydrocarbon technique, remains unsubstantiated.

TECHNICAL DESCRIPTION OF WORK

EXPERIMENTAL PROCEDURES

The Phase I Report 15192RO1.pdf (Monson, 2000) includes an explanation and summary tables for the various methods of surface hydrocarbon exploration utilized in this study. The methods retained for Phase II include: 1) Head Gas, 2) Soil Gas, 3) Microbial (method 2), 4) Iodine and 5) Other indirect measurements provided by the Head Gas Analysis package of services (Eh, pH, and Conductivity). Magnetic Susceptibility measurements were also taken on the soil samples sent for Acid Extract analysis. The methodology, theoretical basic, and procedural observations of each technique appear in that Phase I Preliminary Report.

New to Phase II is the utilization of reconnaissance micro-magnetic exploration techniques as the initial investigation tool. The most extensive sampling to date occurred in the Smoke Creek Area with 1185 Magnetic Susceptibility measurements taken. This study, and this author, benefited greatly from the guidance of John Land. His participation in this project was both fortuitous and appropriate for two reasons: 1) Mr. Land has conducted micro-magnetic surveys for more than 47 years, and thus brought valuable experience and interpretation skills 2) The hydrocarbon seepage model cited in the author's previous work was published by Mr. Land and appears in Figure 12 of this report as well.

To conduct the Magnetic Susceptibility Survey, Mr. Land used an Exploranium KT-9 Kappameter. (See Map Figure 17). The procedure was simply to record at least three soil contact readings, which were then averaged by the meter. Bare soil was usually prepared by scraping the surface with the heel of a shoe in cultivated or sparsely vegetated soil. Where more dense and undisturbed prairie grasses grew, a small spade was used to open a test hole.

The theory behind using Magnetic Susceptibility measurements as a hydrocarbon exploration tool is that the meter measures how easily the near surface soil is magnetized. Electric currents sent into the soil create a magnetic field that is adsorbed by ferrous minerals in the soil. The indirect inference is that these alteration minerals are more likely formed in a reducing chemical environment caused by the presence of natural gases in the soil. The tool is primarily a relative indicator (as most surface techniques are) of higher gas levels relative to background levels along the day's profile or profiles.

On the last three magnetic survey profiles, paths were chosen that best crossed the Smoke Creek Aeromag Anomaly. On these traverses, field magnetic measurements were made with a Geometrics Model G-856 Magnetometer (Figure 18). For each day a similar unit was also set up as a base station to measure the diurnal magnetic variations of the earth in this area (Map Fig. 21). Field measurements were subtracted from the base station readings by synchronizing each unit's time clock and processing the data utilizing post acquisition software. Map Figure 19 shows the author and Mr. Land in action with the

two magnetic instruments described above. The magnetometer was used to measure local variations in the earth's magnetic field. Although the survey apparently confirmed the overwhelming signature of the Smoke Creek Aeromag Anomaly, subsequent high frequency preservation may provide valuable hydrocarbon traces that could relate to the satellite tonal anomalies (curvilinears). This process will be summarized in the next semi-annual report.

In all of the magnetic profiles the following sampling distances were employed: 1) Inside the Aeromag Closure - .2 mile (.32 km), 2) within 3 miles (4.8 km) - .3 mile (.48 km), 3) 3-6 miles (4.8 - 9.6 km) - .5 miles (.81 km). The Aeromag Closure is approximately 6 miles (9.6 km) in diameter. Thus each traverse was approximately 18 miles (29 km). Sampling profiles followed existing roads and trails wherever possible with only a couple short traverses on foot. As with all earlier sampling, GPS locations were mapped and data entered into a laptop computer.

RESULTS AND DISCUSSION

Background

Public domain aeromagnetic data was one of the primary data sets acquired by the Fort Peck Tribes in 1990 for their Minerals Assessment Study, funded by the Bureau of Indian Affairs, Energy and Minerals Division. Map Figure 2 displays two significant aeromag "structures" on the Fort Peck Reservation. The first is a narrow linear trend in the western part of the Reservation. Pertinent to this entire DOE funded project is the circular, "bulls eye" anomaly, which dominates the northeastern part of the Reservation. When this study began, GCRL, the Tribes IMDA partner and technical matching fund participant of the grant, was more than passively interested in the Smoke Creek Aeromag Anomaly (SC Mag). GCRL's parent company, Gulf Canada, fully appreciated the economic significance of what one explanation for SC Mag could be: an astrobleme. Gulf operates the prolific Steen River Oil Field in Northern Alberta, thought to produce from fractured reservoirs draping a buried meteorite. Other astrobleme fields occur in the Williston Basin, such as Red Wing Field in North Dakota.

At first the author, from geophysical and petrological training, assumed that SC Mag represented an ultramafic intrusive, perhaps a lopolith formed near the margins of a pre-Paleozoic tectonic suture zone. (Shurr & Monson, 1991, 1993, 1995). These papers document considerable evidence for SC Mag to be more than just an ultramafic intrusion. The historical case began long before when the author was shown Ft. Peck's NW/SE drainage pattern in an undergraduate Geomorphology course (See Map Figure 3). Note the east-west deflection of Smoke Creek in the northeast part of the Reservation, exactly where SC Mag is located. Taught as a classic example of structurally controlled drainage, within the Williston Basin tectonic framework, Ft. Peck's stream patterns encouraged the author and George Shurr to map satellite lineaments and propose tectonic blocks. (Map Figures 4, 6-10). SC Mag lies at the intersection of the Poplar and Big Muddy Lineament Blocks (Map Figure 6). It was proposed by Shurr that these lineament zone boundaries represent surface expressions on deep-seated, reactivated faults, which

enhance structural drape traps as well as encourage reservoir deposition over tectonic highs. Map Figure 7 details the SC Mag Aeromag anomaly (from a commercial data acquisition) and became the focus for Shurr and Monson (1993) and this study. That earlier paper documented numerous other anomalies above SC Mag:

1) Map Figure 8; deflection of structural folds, and seismic time and isochron contours.
2) Map Figure 9; Lineament Zone Intersection
3) Map Figure 10; Other Anomalies – radial drainage, radial soil map pattern, thicker till soils characterized by unusual colors, more resistant soils characterized by a flattening in the Smoke Creek stream profile (clockwise maps from top left).
4) Map Figure 11; satellite tonal anomalies (curvilinears) with contoured abundance over SC Mag.
5) Map Figure 12; Curvilinears (bubbles) concentrated at lineament intersections and associated with other interpreted aeromag structural "fault" lines (Geoterrex, 1990).

All of this evidence led Shurr and Monson to propose that the SC Mag curvilinears could be hydrocarbon micro-seepage chimneys as described by Land, 1991 (see Map Figure 13).

Maps Pages 14 and 15 complete the Fort Peck structural picture by displaying a seismic profile and fold and fault axes which place the SC Mag feature in the Williston Basin tectonic regime adjacent to the Prairie Salt Edge and coincident Smoke Creek Syncline. This project's Summary Poster brings all this background together in Map Figure 16.

PHASE II FIELD WORK

The surface hydrocarbon exploration methods employed in Phase II of this project are explained in the Experimental Procedures section of this and earlier reports. The instruments employed in the two new techniques added to Phase II, are pictured in Map Figures 17 (Magnetic Susceptibility) and 18 (Magnetometer). Field pictures of a relatively docile Smoke Creek (20), and the east/west portion of the Smoke Creek Valley (21) characterize the terrain traversed. The reddish colored rocks in the second photo bear further investigation. In no other location were these outcrops that color.

MAGNETIC SURVEY

Magnetic Susceptibility

Although background Soil Gas and Head Gas samples were taken in June, 2001 around the SC Mag, the data was not evaluated until the fall of 2001. Thus we will first examine the results of the Magnetic Susceptibility (MS) reconnaissance, which followed established roads and trails outlined by the sample sites plotted on Map Figure 23. The

next 25 Map Figures plot the MS data profiles, which are shown in order of start (left) to finish (right). Compass directions reverse according to the day's direction of travel. Line labels correspond to the Roosevelt County Road numbers: N-S roads begin with a "2", and display in the last two digits, the distance from North Dakota, while E-W roads begin with a "1", and record the distance from Canada, in the last two digits. As mentioned in the Experimental Procedures, MS values have relative, and not, absolute significance. Table 1a in Appendix 1 lists all the sample locations while Table 1b, Appendix 2, lists all the MS and magnetic readings. Each profile has an index map.

First, specific observations on the MS Profiles (all locations in reference to nine township study area enclosing the SC Mag Anomaly Core):

Line 133 (Fig. 28) – Noticeable MS increase in, and along, NW perimeter of SC Mag.
Line 134 (Fig. 28) – Same increase noted.
Line 139 (Fig. 33) – MS increase in west core area.
Line 113 (Fig. 35) – 4 high MS areas and 3 low MS areas on west edge of survey area outside SC Mag core. Considerable "background" area variation noted.
Line 230 (Fig. 37) – Strong MS peak in Northwest, high at NW perimeter of SC Mag.
Line 235 (Fig. 38) – Peaks NW & NE of SC Mag, and within core area.
Line 236 (Fig. 39) – MS peak east of SC Mag
Line 237 (Fig. 41) – Higher MS values near east perimeter of SC Mag.
Line 238 (Fig. 42) – Similar to Line 237.
Line 241 (Fig. 46) – MS lows near SW perimeter, but highs across south central core.

In general there appears to be relatively higher MS values on the northeast and east perimeter of the SC Mag core. The southwest part of the core also had areas of higher MS values. The most significant increases in MS values, however, were found in the northwest part of the study area, outside the SC Mag anomaly.

The last three survey lines recorded noticeably lower MS values (Lines 134, 236, 240). This was caused by the loss of the protective rubber tip on the MS probe. Map Figure 50 graphs the tie point values of the earlier surveys above the "tip-less" probe values. The ratio of the two profiles is also plotted. The tip-less probe values were multiplied by the ratios, which served as correction factors.

Map Figure 51 is a contour map of all MS values. The core area has lower values with the hint of higher values near the perimeter. The complexity of the contour pattern warrants further investigation to determine whether MS values correspond to the tonal anomalies (curvilinear "bubbles"). Two significant "highs" plot in the northwest and east, with one minor "high" in the south central core. The two outside anomalous areas are well displayed in Map Figure 52, which plots MS values as a ratio to a defined anomaly value of 1.5 times the mean.

Field Magnetics

Field magnetic readings for Lines 134, 236, and 240 were collected to record local variations in the magnetic field, which might be attributed to hydrocarbon modified soil mineralization. Map Figures 29, 40, and 45, respectively, plot these profiles. Map Figure 53 combines all three and displays a glaring calculated residual difference for Line 236. By examining the Line 236 tie points with Line 134, a corrected profile comparison was made in Map Figure 54. The sharp peaks of Line 134 and 236 confirm the Smoke Creek Aeromag Anomaly. Line 240 crosses only the southern part of the anomaly and is relatively flatter and undulating. A contour map of the field data is plotted in Map Figure 55 and enforces this observation.

Further utility of both the air mag and field mag data lies in reprocessing the data so as to extract the high frequency data, which is normally removed for basement tectonic interpretations. The high frequency "noise" is in fact most desirable information for a micro-seepage hydrocarbon exploration tool. This line of investigation will hopefully be explored in the next part of the project.

Background Gas Samples

Prior to the MS reconnaissance survey, 36 sites, in eight locations, were sampled around the perimeter of SC Mag in order to establish background data quantities of both Soil Gases and Head Gases. Sampling began in the southwest and proceeded counter clockwise. Because Area 1 encompasses nine townships (324 sq. miles – 843 sq. km, 207,360 acres!) it was beyond the budget of this project to sample the entire area at a meaningful grid spacing. A decision was made to conduct the MS survey as an initial reconnaissance in order to compare the results to the gas background samples and to identify potential anomalies for further soil sampling utilizing the most favorable techniques determined in Phase I.

The Background sample locations are listed in Table 1c (Fig. 56). Soil Gas data is presented in Table 1d (Fig. 57). Unusually high values can surprisingly be seen in Table 1d. This is confirmed by Map Figure 58, which plots C1-C3 Soil Gases. A Methane peak occurs in the southwest, but most noticeable is the strong Soil Gas anomaly in all three gases at Site 26. For a change, the Soil Gas data validity appears quite good, as seen by the linear relationship between Ethane and Propane in this data set.

The Head Gas analyses in Table 1e (Fig. 60) mirror the Soil Gas values. Oddly, some samples returned no Head Gas values from the lab, however the southwest "Background" and again, the northwest (Site 26), display anomalies. In addition, the west Background sites had higher Head Gas levels than expected. See Map Figure 61 for a graphical display of these observations. Data validity is excellent for the Head Gas analyses as seen in the linear relationship plotted in Map Figure 62.

A comparison of Soil Gas and Head Gas values for Methane, Ethane, Propane, and Butane is plotted in shaded area charts for the "Background" sites (Map Figures 63-67).

The best correlation occurs at Site 26. As in Phase I, the Head Gas values are 5-10 times greater than the more direct Soil Gas analyses. A notable exception is Propane and Butane Soil Gas at Site 26. This is the only instance to date where Soil Gases were observed to be greater than Head Gases.

The other indirect indicators, Eh, pH and K are plotted against Head Gas Propane in Map Figures 67-69 respectively. When Eh is lower the Propane is greater, except in sites 30-32. Eh values were divided by 10 to facilitate similar graph scales. PH also appears lower over sites with higher Propane. Again, the western sites do not follow this pattern. Subtracting 7 and multiplying by 20, again for display purposes, enhanced PH variation. K, conductivity, appeared to increase where Propane was higher. The Background sites were too widely spaced to draw any more specific conclusions. K values were modified by a factor of 200 for better display units. These modifications of the indirect indicators, Eh/10, (pH-7) x 20, and K/200 will be used throughout the remaining Phase II data interpretations.

SITE 26

One of the areas of higher Magnetic Susceptibility in DOE Area 1, Smoke Creek sample site SC-26. Map Figure 72 contours this anomaly in the northwest corner of section 15. Map Figure 73 is a time structure map from the Smoke Creek 3D survey. Site 26 lies at the southeast end on a structural nose that has closure in section 8, 1.5 miles (2.4 km) northwest. A cross-section profile of the data as seen in Map Figure 74 also displays this MS anomaly. Recall that the "Background" Soil and Head Gas data also had sharply higher values here. Entirely by coincidence, and outside the primary area of focus (SC Mag Anomaly), independent sampling identified a potential hydrocarbon seepage prospect. Tables 2a, 2b, 2c (Map Figures 75-77) list the sample locations, gas data, and non-gas data, respectively. Soil and Head Gas analyses are graphed in Map Figures 78-79. Among the highest Soil Gas Propane and Butane are found here. The Head Gas Methane values were so large that a log scale had to be used. The first map for Soil Gas Methane (Fig. 80) plots the sample grid for Site 26. In the NW/4 samples were collected on offsetting 330 ft, (101 m) spacing. This is the densest grid employed to date in the project. Map Figures 80-84 plot Soil Gases while Map Figures 85-89 display Head Gases. All show elevated light hydrocarbon gases. The Soil Gas anomalies stretch in a bimodal closure across the north half of Section 15 while the Head Gas closures trend more to the west. No data was collected within the northeast quarter of Section 16 so contour shading there is extrapolated from the section lines.

The Non-Gas techniques applied to Site 26 include: Eh, pH, K, Microbial, and Iodine. The following relationships were observed:

1) Eh was not depressed over the gas anomalies, but was low in the southwest of Sec. 15.
2) PH contours crudely rim the gas anomalies but not enough background data was present to determine whether the anomaly core was also higher in pH.

3) The color scheme on the Conductivity Map is confusing. Higher k values do surround the gas anomaly area (NW/4) thus creating a hole as required by the theoretical basis model.
4) Microbial "highs" correlate well to the Head Gas "highs". There is also an apparent halo around the NW/4.
5) Iodine anomalies are present both over and south of the NW/4.

For comparison purposes, the commercial vendor's color fill maps are included for Methane, pH, and K (Figs. 95-97). The Soil Gas validity checks out well in 1a Map Figure 98 and the Head Gas data validity is excellent, as graphed in Map Figure 99. Soil Gas and Head Gas Propane values for Site 26 are graphed in Map Figure 100. As noted in the Background data section, the highs and lows approximate each other, but there is sometimes an offset of one sample site. Three, scale exaggerated N/S profiles for Propane, are found in Map Figures 101-103. The apparent data shift is obvious and cannot be explained at this time. Both detection methods found relatively higher gas concentrations in the soil, but not necessarily at the same locations. Profile 1 sites were also plotted as comparisons between Head Gas Propane (C_3) and Eh (Fig. 104), pH (Fig. 105), K (Fig. 106), Microbial Values (Fig. 107), and Iodine (Fig. 108). Note that the Head Gas peak is over site #25, not 26. Eh does not correlate as well as it did in the Phase I study areas (6 & 7). PH appears to border the C_3 peak in Fig. 105. As observed on the maps, conductivity best correlates to C_3 in Fig. 106. It should be a halo relationship. Microbial values appear antithetic to C_3 values in the profile on Map Figure 108. They are thus effectively halo patterns, something not observed in Phase I data sets. Iodine values only partially correlate to C_3 in the entire Site 26 data set. (Fig. 109). There is no correlation between Iodine and C3 in the N/S Profile 1 (Fig. 110).

SC Core

In the south central part of the SC Mag core area, a small Magnetic Susceptibility anomaly was detected (See Map Figures 54 and 55). Because this area contained a high concentration of curvilinear "bubbles", it was selected for a soil sampling profile, and named SC Core. Tables 3a (GPS locations, Fig. 111), Tables 3b (Gas data, Fig. 112), and Table 3c (Non-gas data, Fig. 113) list the SC Core data. Head Gas values are noticeably lower when compared to the Soil Gas values in this area. This is not the normal relationship. Map Figure 114 indicates that the Soil Gas data is suspect. In fact, several sites were re-sampled at a later date in order to check the data validity. As usual, the Head Gas data validity is excellent (Fig. 115). Head Gas Propane does increase in three parts of the 3-mile (4.8 km) traverse (see Fig. 116). Soil Gas Propane does not correlate very well with the Head Gas values. Map Figure 117 displays poor gas correlation to the Magnetic Susceptibility data, which of course, prompted the selection of this prospect area in the first place. The only exception is sample site SC-625.

In the western part of the SC core profile (right side of Map Figure 118) Iodine values trace MS values nicely, but Microbial values appear to be antithetic. Because of the data validity question regarding the Soil Gas data, only Head Gas Propane was plotted vs. the three non-gas techniques: Mag-Sus, Microbes, and Iodine. Eh, pH, and K had no

apparent utility in this profile. The MS correlation to Head Gas C_3 is only good at SC-625 as already mentioned (see also Fig. 119). Microbial values generally track similar to Propane in Map Figure 120, except at SC-625. Iodine only sometimes correlates to Propane in the graph on Map Figure 121. No maps were made due to insufficient data points.

LOBO WEST

The strongest MS anomaly mapped in the Smoke Creek, DOE Area 1, was found in the northeast, and outside SC Mag. Because this area lies 1-3 miles (1.6 – 4.8 km) west of the abandoned Lobo Oil Field, it was named the Lobo West Prospect Area. An east to west sample traverse was conducted to sample soils for the same methods employed at Site 26 and SC Core. GPS data collection is listed on Table 4a (Fig. 122). Head Gas and Soil Gas data are presented in Table 4b (Fig. 123), while non-gas data can be found on Table 4c (Fig. 124). Unlike the SC Core profile, samples for Lobo West were collected at a closer spacing. Therefore the data points do not exactly correspond to those for the MS survey.

In a disturbing reoccurrence, the Soil Gas Data validity was again poor here (Fig. 125). However Head Gas data remains valid (Fig. 126). The Propane comparison on Map Figure 127 is probably meaningless when the previous two sentences are considered. Head Gas values are disappointingly low in the Lobo West profile. When compared to the "Bugs" in Map Figure 128 an inverse relationship is once again observed. Whether this is significant in an area of such low gas values is debatable. Iodine appears to track the Propane data quite well (see Fig. 129).

Two profiles were constructed in order to compare Head Gas Propane values to Magnetic Susceptibility. The first, Map Figure 130, approximates an overlap of the two data sets sample sites. There is good correlation along Profile 1 for Propane and MS. Even better correlation is displayed in Profile 2 (Fig. 131), which attempted to match which MS survey points were located next to which Head Gas sample sites.

Again, as with the SC Core area, not enough samples were collected to warrant any maps for Lobo West.

POPLAR WEST

With no other identified leads in the Smoke Creek Area, and the field season ending, a decision was made to run a quick reconnaissance survey in the Northwest Poplar Oil Field. The survey was designed to search primarily for Methane gas seepage on Tribal lands above a Cretaceous structural closure, where Judith River sandstone reservoir parameters and gas shows were good. Map Figure 132 contours that closure in the Eagle Formation, which is also a shallow gas target. Both the Judith River and Eagle formations produce significant amounts of gas in north-central and southeastern Montana. Williston Basin wells, and exploration plays, have almost completely ignored shallow gas in search of deeper Paleozoic oil. Since 1985, the Fort Peck Tribes have

encouraged shallow gas exploration is their KGAS Project. Eight unsuccessful tests were drilled in the mid-90's, and the play awaits new partners. Seismic acquisition is too expensive in a shallow gas play, so any surface exploration technique that could detect Methane seepage, would be extremely valuable to the Tribes.

The Judith River Net Sandstone thickness is mapped on Map Figure 133. Note that both a structural high, and a sandstone reservoir buildup, occur in the west central part of the township where the Tribes also own mineral rights. The structural closure is significant because it is peculiar to the higher Cretaceous time and not found in the Mississippian rocks, which produce the Poplar Dome oil. Excellent Judith River tests discovered gas in the adjacent township to the east, over the prolific East Poplar Oil Field.

Two data collection profiles were done in this area, named Poplar West. Map Figure 134 plots the 22 locations, while Tables a-c list the GPS data (Fig. 135), Gas analyses (Fig. 136), and Non-Gas analyses (Fig. 137). Not enough of a grid was sampled to construct valid contour maps, but all the data for each method is displayed by graduated color symbols according to the relative value. See Map Figures 138-142 for Soil Gas, 143-147 for Head Gas, 148 – Eh, 149-pH, 150-K, 151 – stacked parameters. High Soil Gas Methane values were found in the west and south parts of Poplar West. From the previous mapping, it was thought that the SW/4 of section 20 was the best prospect. The higher Methane values to the west and south may mean the prospect is larger than originally thought. An extremely high Head Gas Methane analysis was recorded in the SW/4 of sec. 20 however. Variation in other gases in Poplar West may be due to the oil production, which is present in the area, as seen on Map Figure 132. The conductivity halo in Map Figure 150 surrounds the SW/4 of section 20 where the high Head Gas Methane value was found.

The stacked parameters map (Fig. 151) is a standard package display from the vendor combining gas and non-gas parameters. As with most of the Area 1 data, the Soil Gas validity is poor (see Map Figure 152). The east/west profile comparison of the two Methane values has a poor correlation in the west, but is better in the east (Profile 1, Fig. 153). In Profile 2, the north/south comparison (Fig. 154), there is not very good correlation between Soil Gas and Head Gas. No obvious correlation between either Microbes (Fig. #155) or Iodine (Fig. #156) and Head Gas Methane can be established. Map Figures 157 and 158 are a complex comparison of Methane values for the two gas methods vs. Eh, pH, and K along the two profiles. Eh appears to drop when the Methane peaks, which is according to the model.

CONCLUSION

The application of surface hydrocarbon exploration techniques in DOE Area 1 focused on a reconnaissance survey utilizing micro-magnetic methods in, and around, the giant Smoke Creek Aeromagnetic Anomaly (SC Mag). Three positive Magnetic Susceptibility areas were mapped and then sampled in greater detail using the other selected methods. Purely by coincidence, one of the background soil sample areas also had positive gas indicators. This prospect, named Site 26, lies on the flank of a 3D seismic structural nose. Unfortunately, this hydrocarbon seepage area does not lie up structure on top of a closure as did the Phase I, Area 6 prospect. The high Soil Gas Butane and Propane values were unusual and encouraging.

Magnetic Susceptibility values appear to increase near the northeast perimeter of the SC Mag. There are local anomalies in MS data within the SC Mag, but more detailed examination is required to evaluate if they correlate to the curvilinears. Potential exists for the filtering of high frequency magnetic data from both the field survey conducted in this study as well as from the commercial aeromag survey acquired earlier by the Tribes. This will be done in next six months. In addition the author is awaiting Mr. Land's observations and interpretations, which undoubtedly will present better utilization of the micro-magnetic tools.

In general, Soil Gas values do not correlate well with Head Gas values. This was also observed in Phase I for Areas 6 and 7. Soil Gas data checked out as valid in the background samples and in the Site 26 samples, but a scattered plot of Ethane vs. Propane in the SC Core, Lobo West, and Poplar West areas questions the validity of this method. Head Gas data always appears to be statistically valid in all data sets. Methane analyses are an enigma however, randomly appearing as very high values independent of the other light gases. These should be used with caution in shallow gas exploration since there may be other environmental reasons for Methane accumulations.

When compared to Head Gas, Eh usually decreases as the gases increase. PH also follows this trend, but a higher halo was not usually observed as the model predicts. Microbial values rise in areas of higher Head Gas, but more often as halos or increases in adjacent samples. Iodine often correlates well with higher Head Gases, but the relationship is not consistent.

The data collected in the SC Mag south central core area (SC Core) did not confirm hydrocarbon seepage nor correlate to curvilinears. Additional tonal anomalies must be examined to determine whether they are hydrocarbon micro-seepage chimneys. Additional soil sampling may be necessary to statistically populate a meaningful evaluation.

The third area of higher MS values, Lobo West, appears to have little hydrocarbon potential. The reason for the MS anomaly is not apparent.

The Poplar West area displayed some high Methane values, but not necessarily over the mapped structural closure or prime reservoir area. Further sampling on a denser and more expansive grid is necessary to decide whether these techniques can be applied to the Tribes KGAS Project.

Table 6 summarizes the conclusions for Phase II of this project. Recommendations for the final six months of activity are also listed there.

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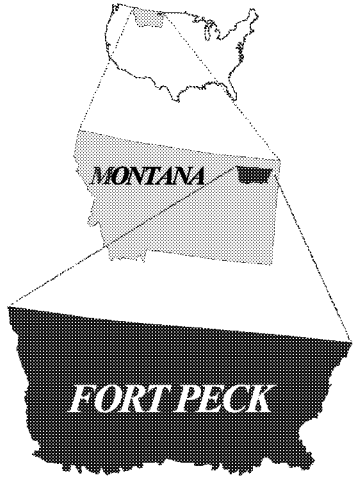
Assessment Of Hydrocarbon Seepage On Fort Peck

- Comparison Of Surface Exploration Techniques

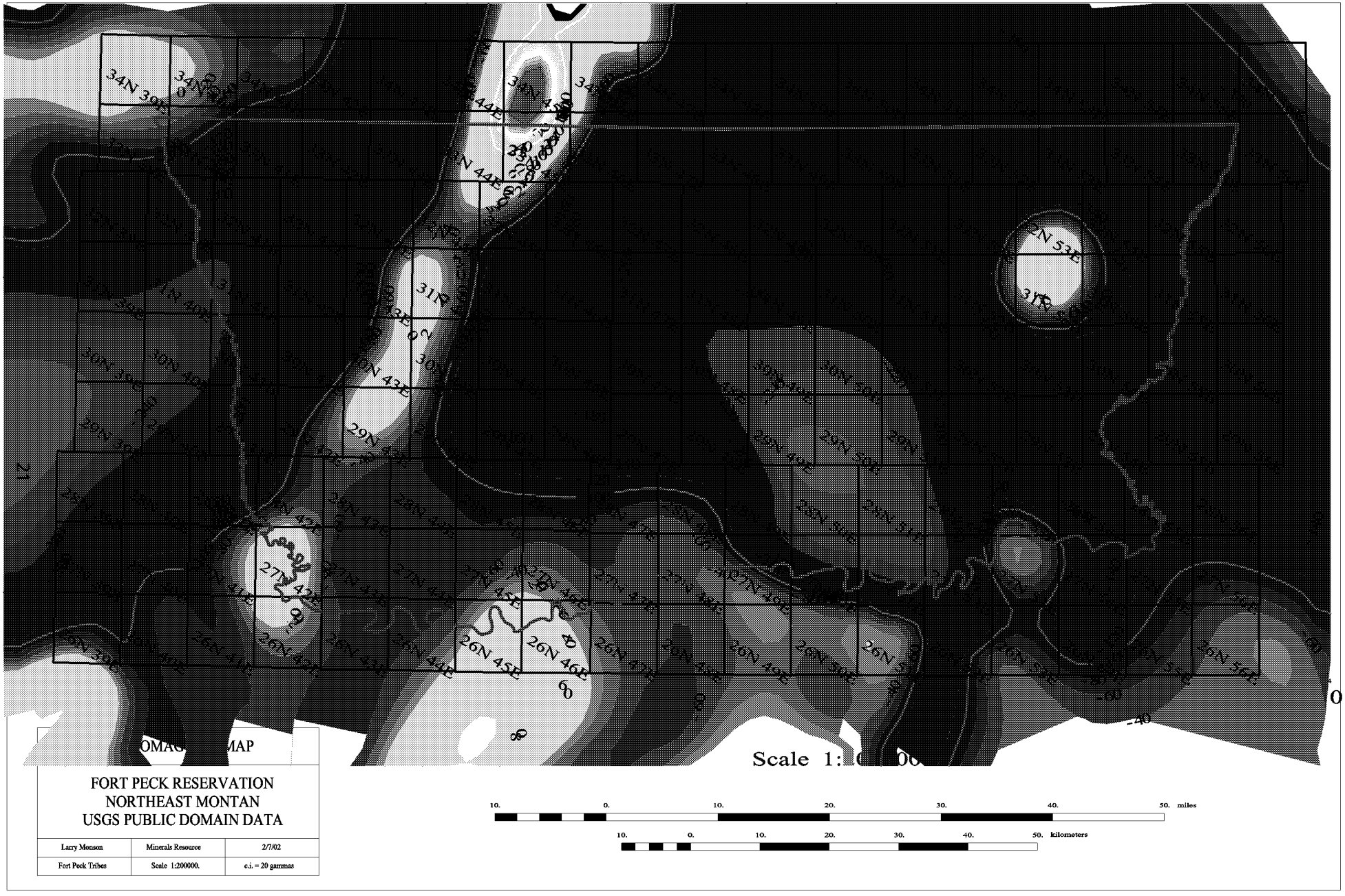
GRANT #DE-FG26-00BC15192: Semi-Annual Report #3: Phase II

- U.S. DEPARTMENT OF ENERGY



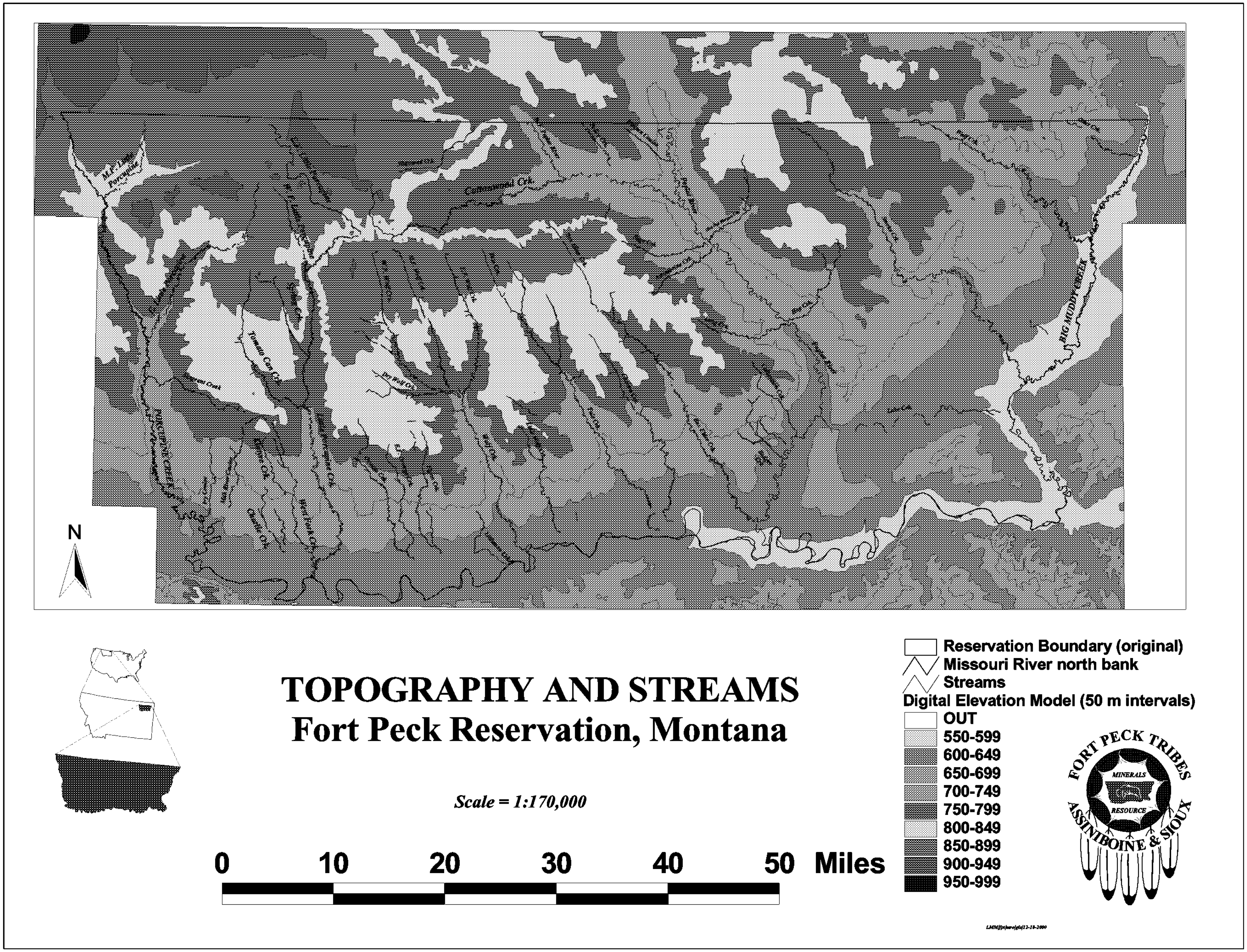
NATIONAL ENERGY TECHNOLOGY LABORATORY

FORT PECK TRIBES
MINERALS
RESOURCE
ASSINIBOINE & SIOUX



AEROMAGNETICS

DEM & Streams



TOPOGRAPHY AND STREAMS
Fort Peck Reservation, Montana

Scale = 1:170,000

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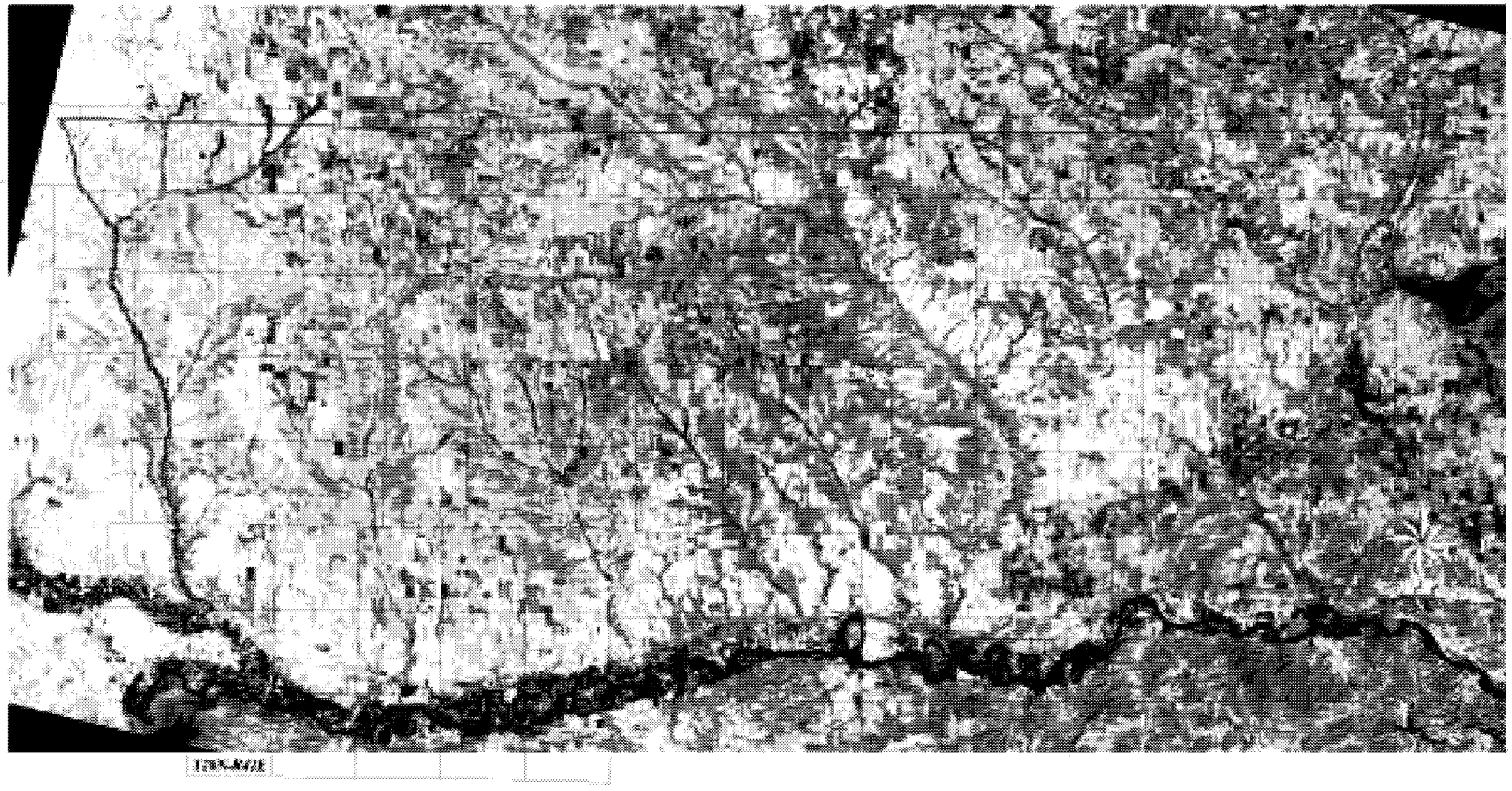

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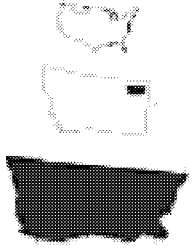
0 10 20 30 40 50 Miles

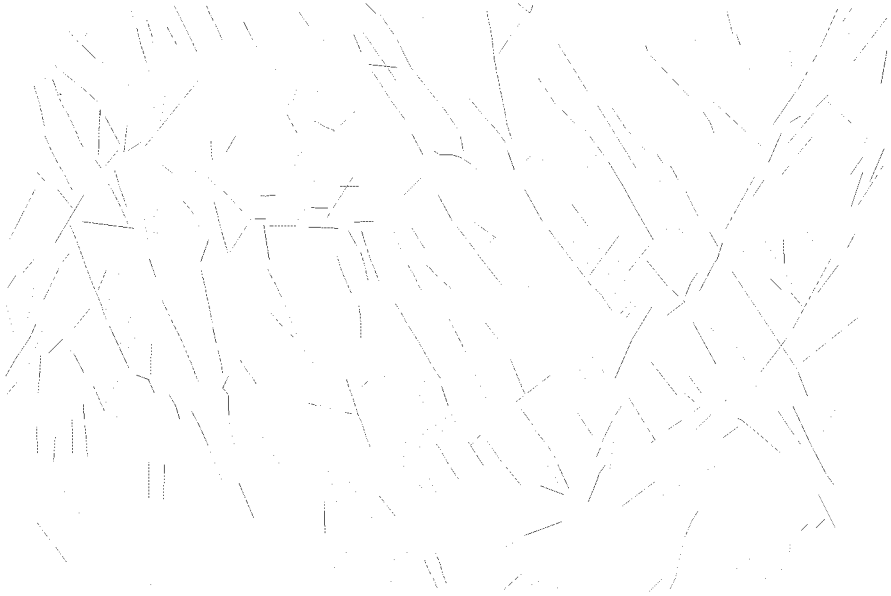
Townships
Reservation Boundary (1988)

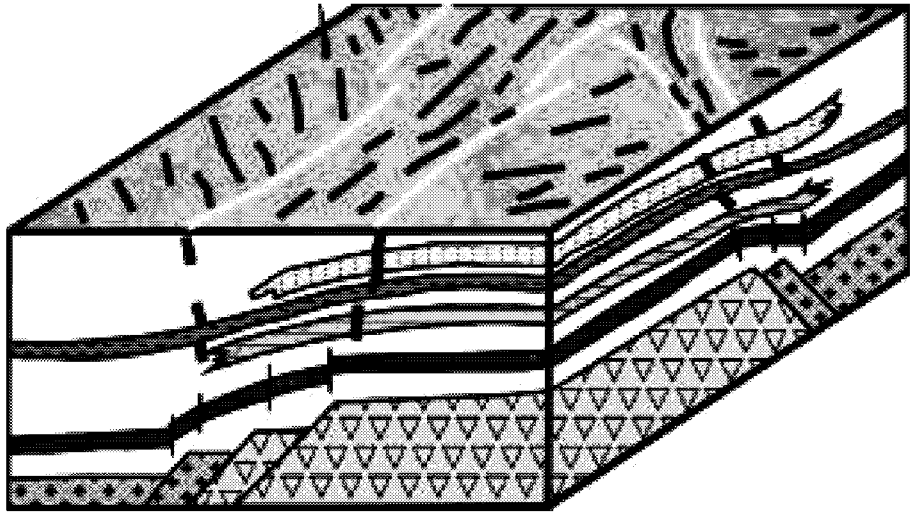


SATELLITE IMAGE
Fort Peck Reservation, Montana

1988 Satellite Image false color composite of Thematic Mapper bands 1,5, and 7. Courtesy of Geographic Data Service Center, Bureau of Indian Affairs

LINEAMENTS & BLOCKS





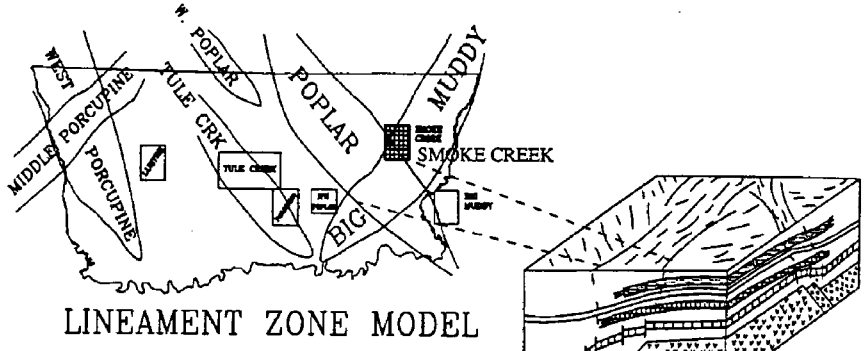
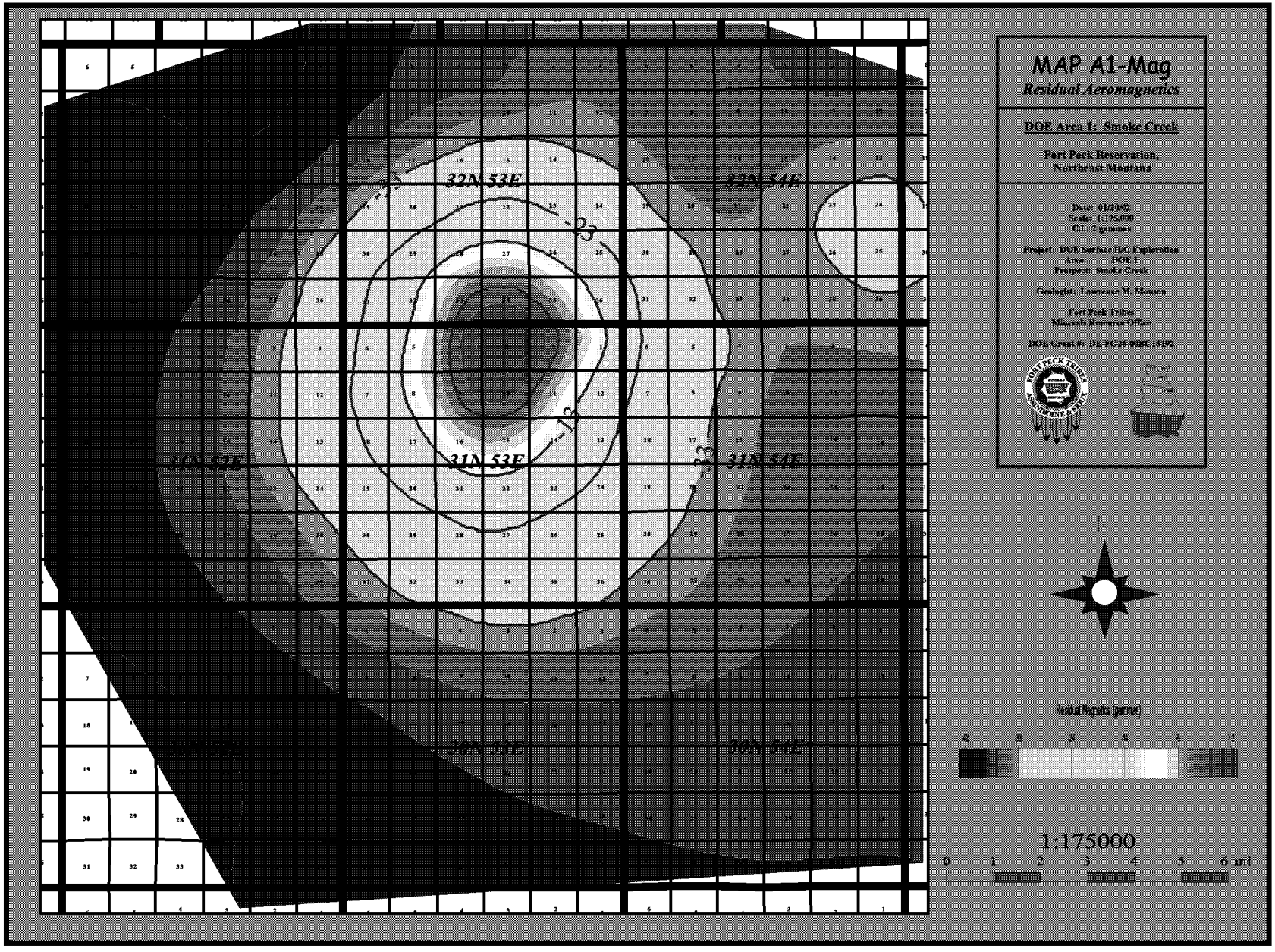


Figure 2. Lineament Zones on the Fort Peck Reservation. Rectangles are enhanced curvilinear study areas.

Area 1 Magnetics



STRUCTURE & MAG

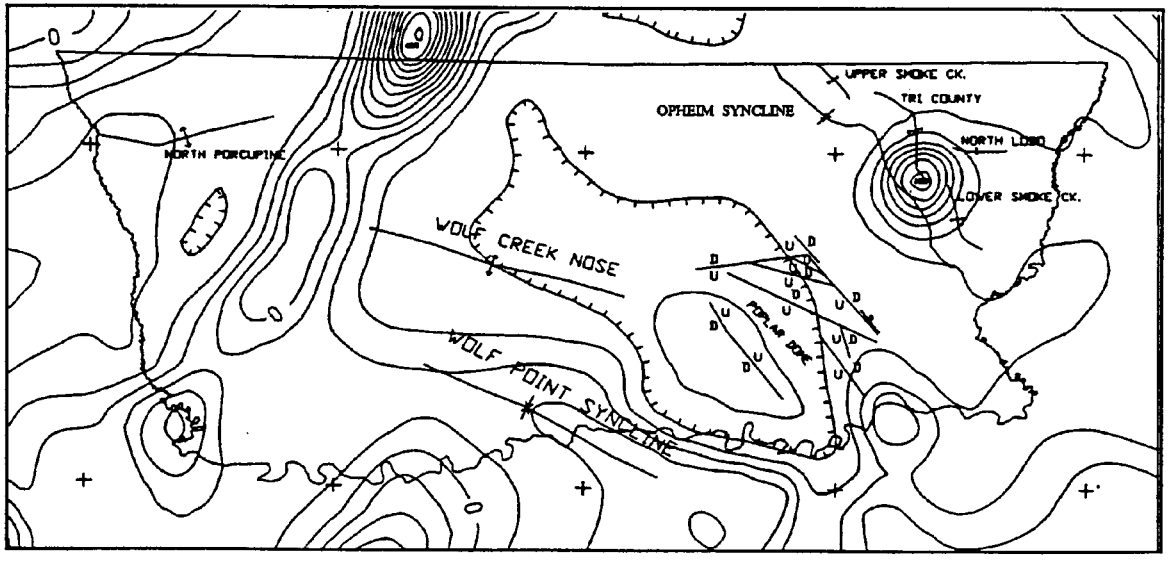


Figure 3. Structural relationships and magnetic intensity. C.I. = 50 gammas

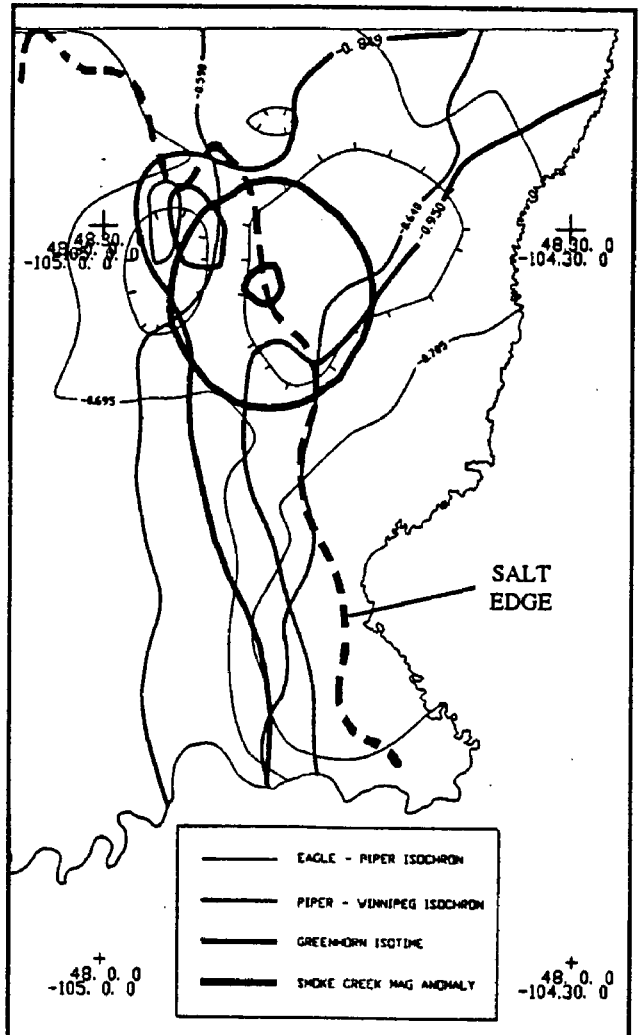
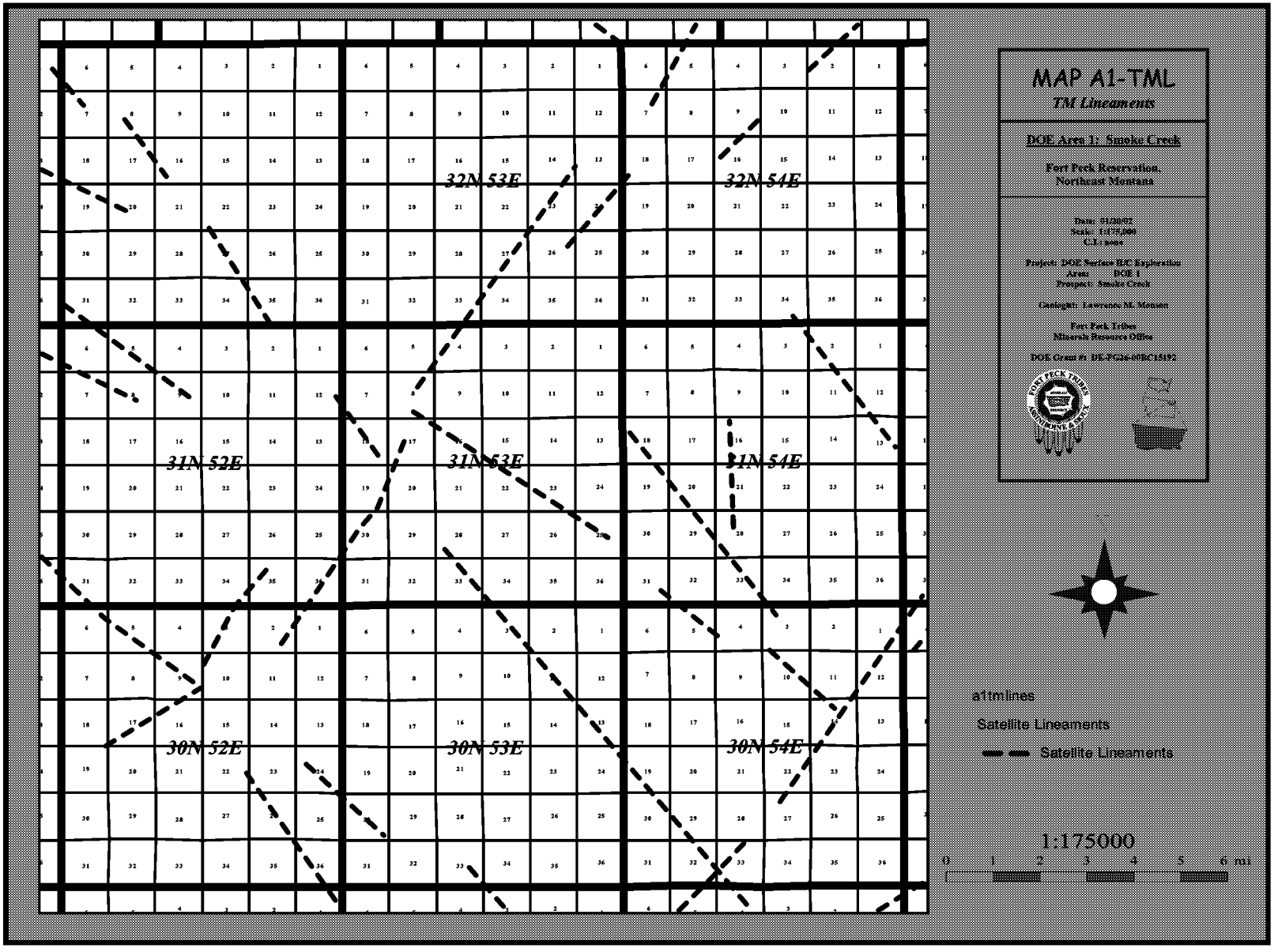


Fig. 4 Smoke Crk. seismic anomalies

Area 1 Lineaments



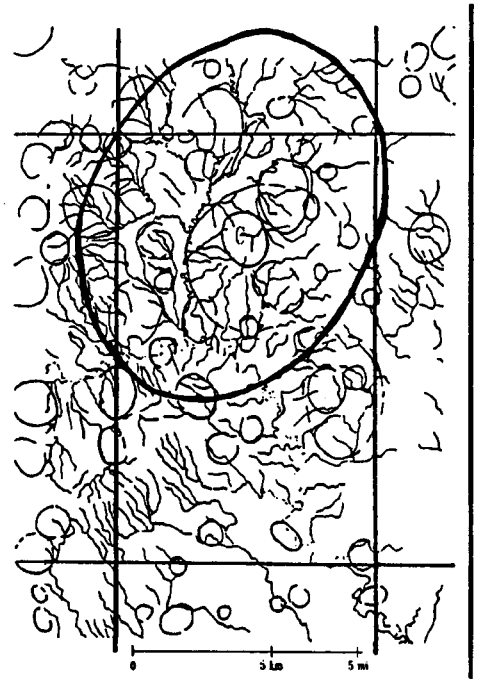


Fig. 7. Smoke Creek curvilinears and streams.

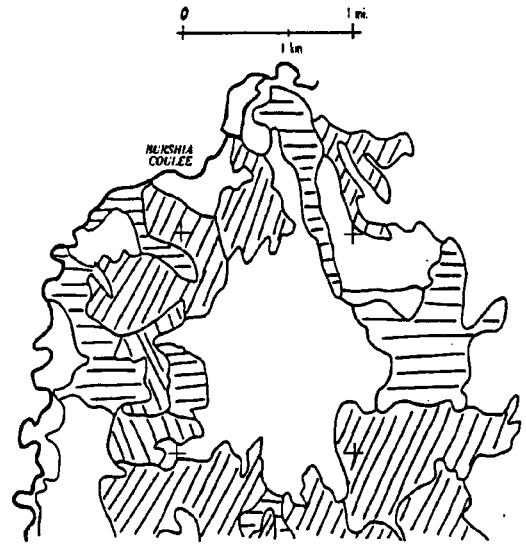


Figure 8. Simplified soils map in the cetral area of concentrated curvilinears. Northeast diagonal = 15-45% slope on sedimentary rock; northwest diagonal = 15-45% slope on till; horizontal lines = 8-15% slope on till; open areas = 2-8% slope on till. Sec.3, T31N-R53E.

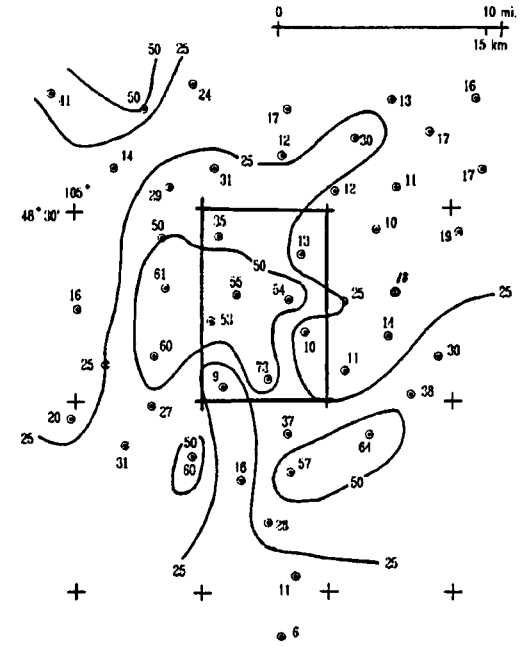


Figure 10. Sediment thickness above bedrock. Smoke Creek Quad is outlined.

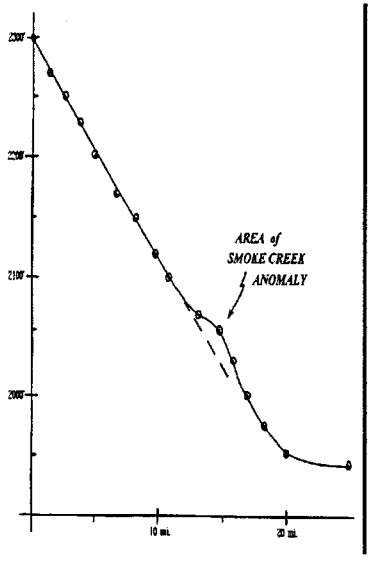
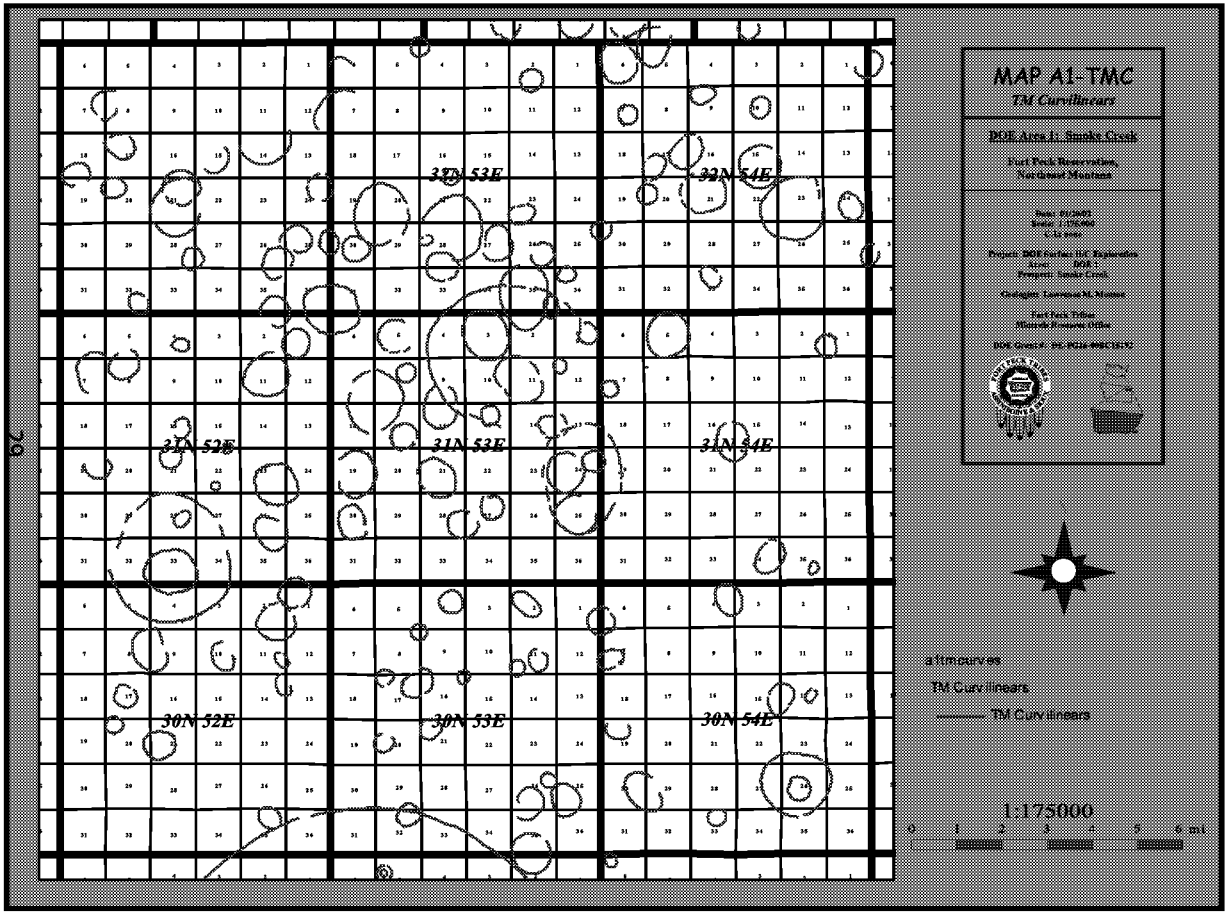


Figure 9. Smoke Creek profile.

OTHER ANOMALIES

Area 1 Curvilinears



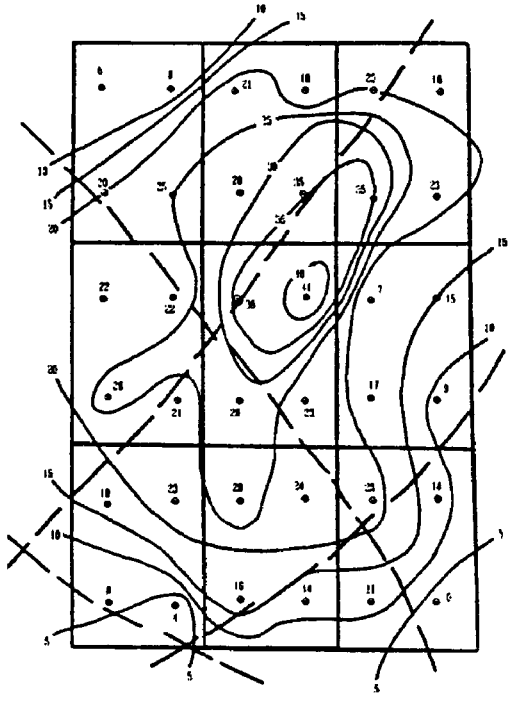


Fig. 6. Smoke Creek study area. Major lineament zones (dashed) and contoured curvilinear concentrations.

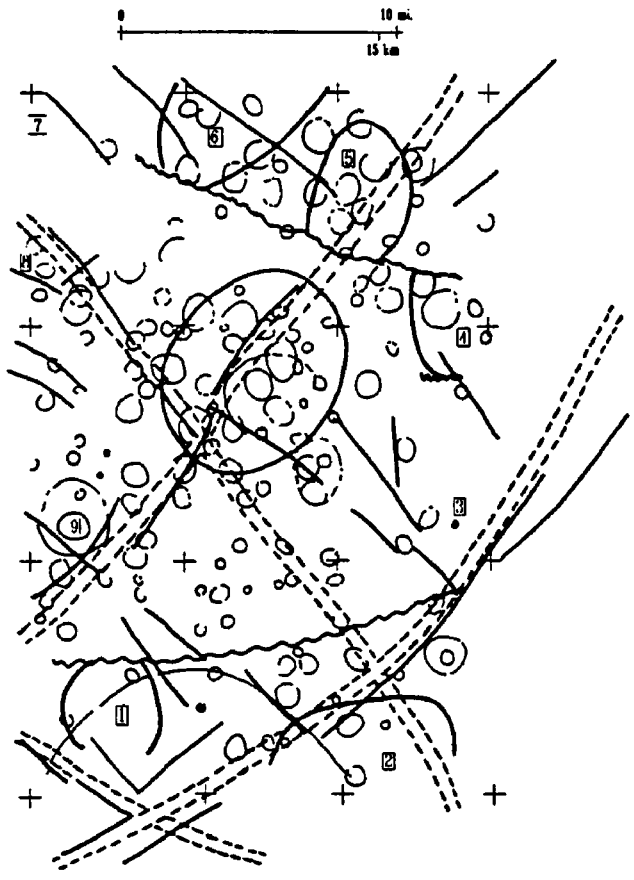


Figure 11. Curvilinears and magnetic anomalies (dark lines) . Lineament zone boundaries shown as double dashed lines. Smoke Creek area.

SMOKE CREEK "BUBBLES"

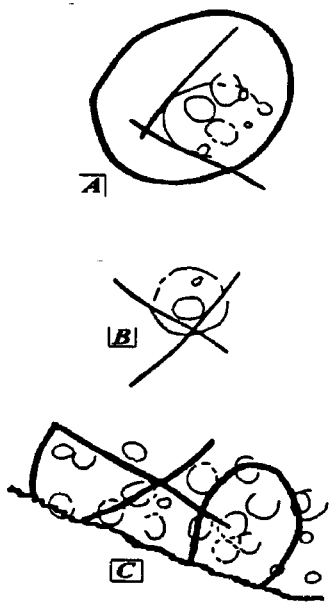


Figure 14. Bubble Examples.

MICRO-SEEPAGE

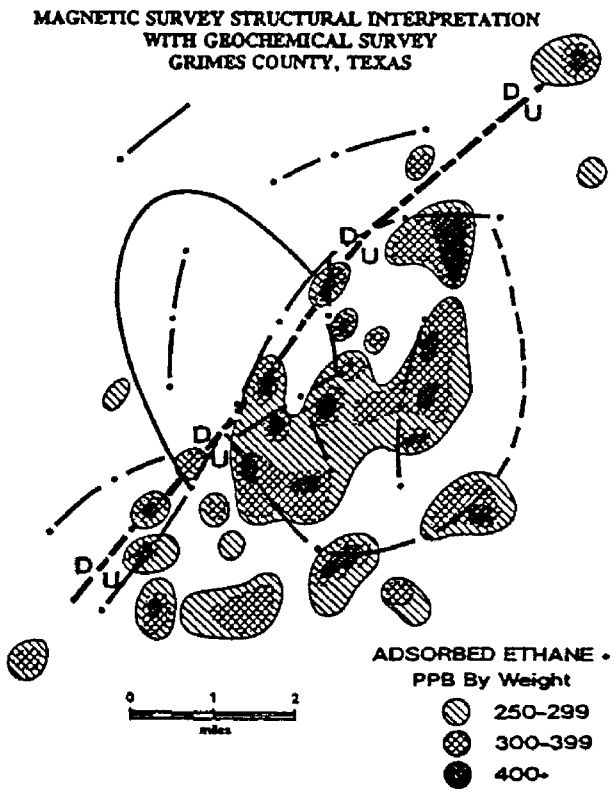


Figure 12. Examples of patterns of geochemical and magnetic anomalies relative to a fault (Land, 1991).

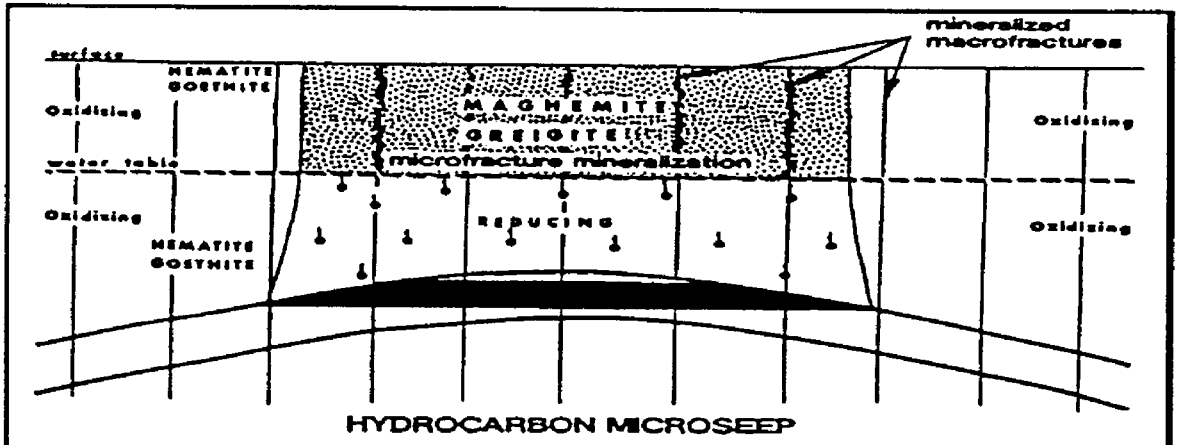
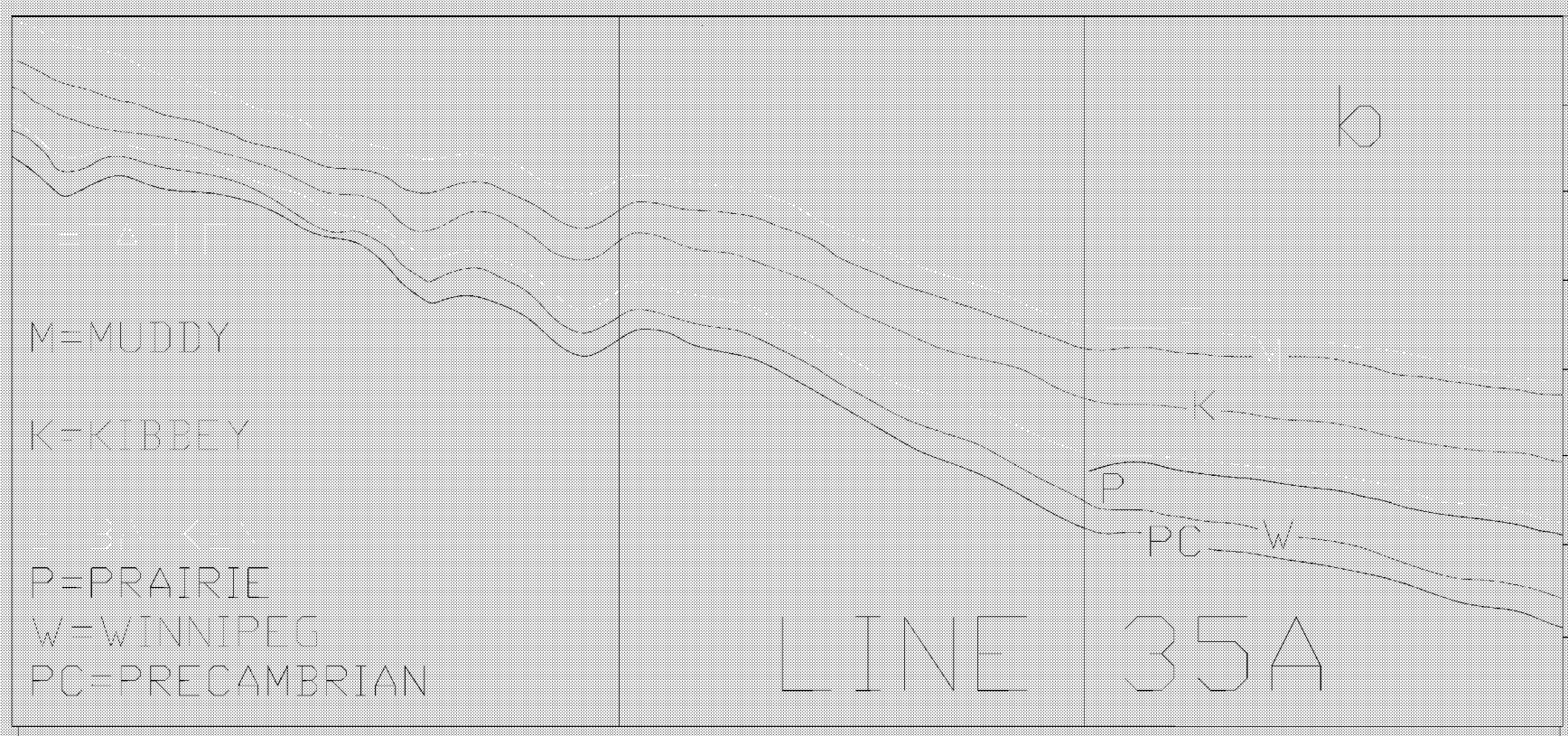
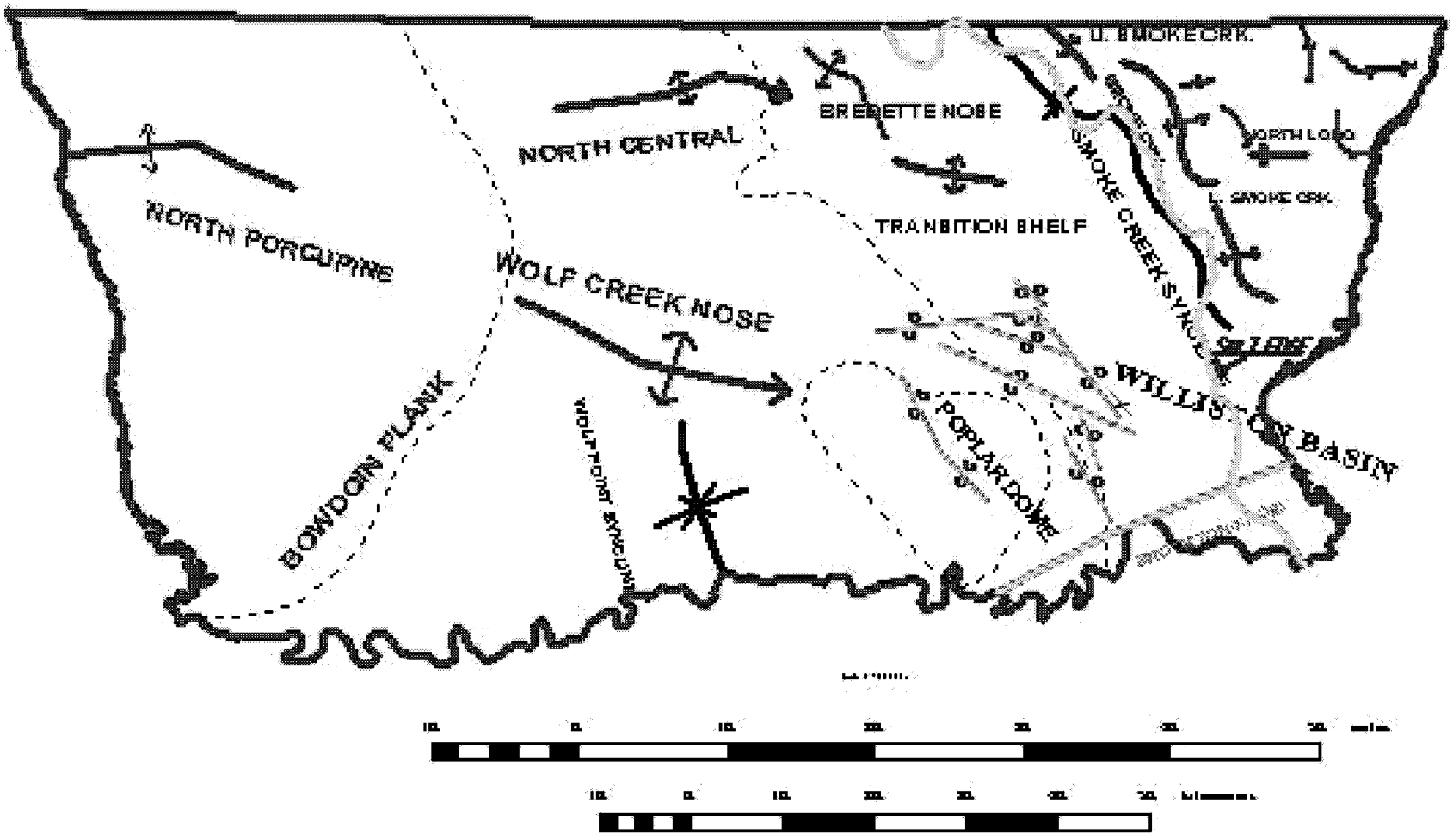


Figure 13. Model for diagenetic chimney. (Land, 1991)

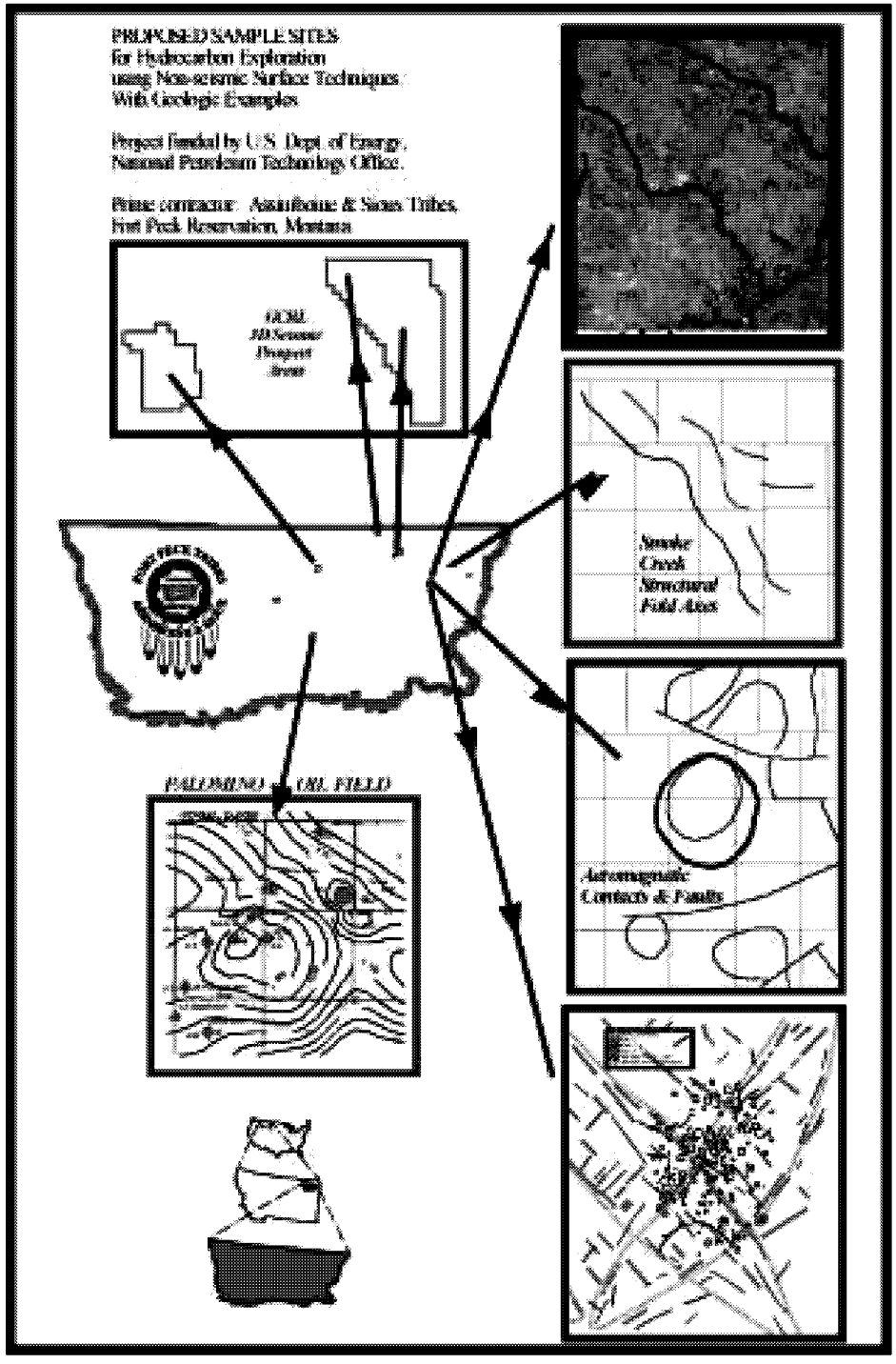
2D Seismic Profile



Fort Peck Structures



Project Poster



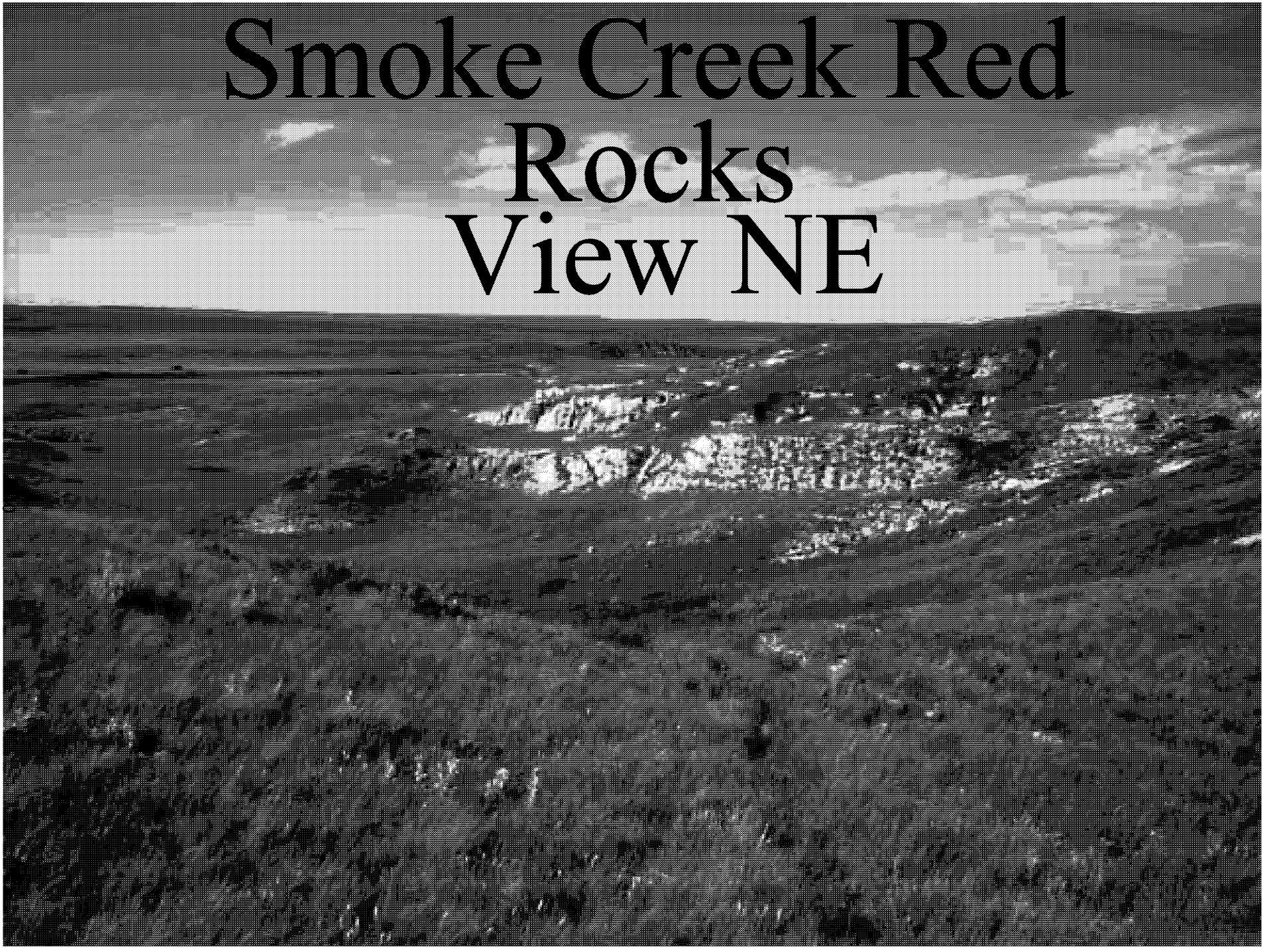
Mars Sets Meter

Magnetometer


Mag Survey Party

Smoke Creek NW View

Mag Base Station


Smoke Creek Red
Rocks
View NE

Area 1 MagSus Points

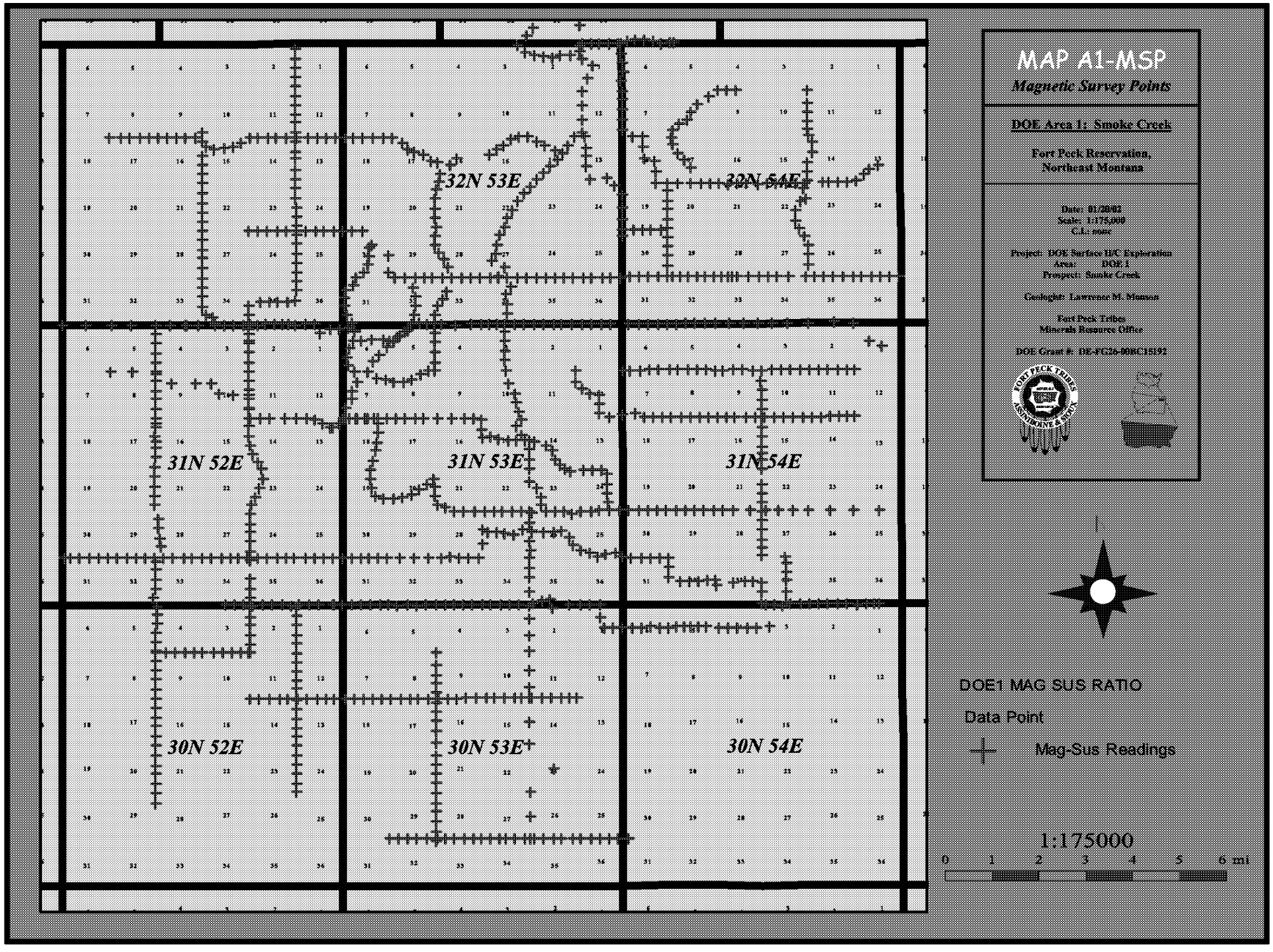
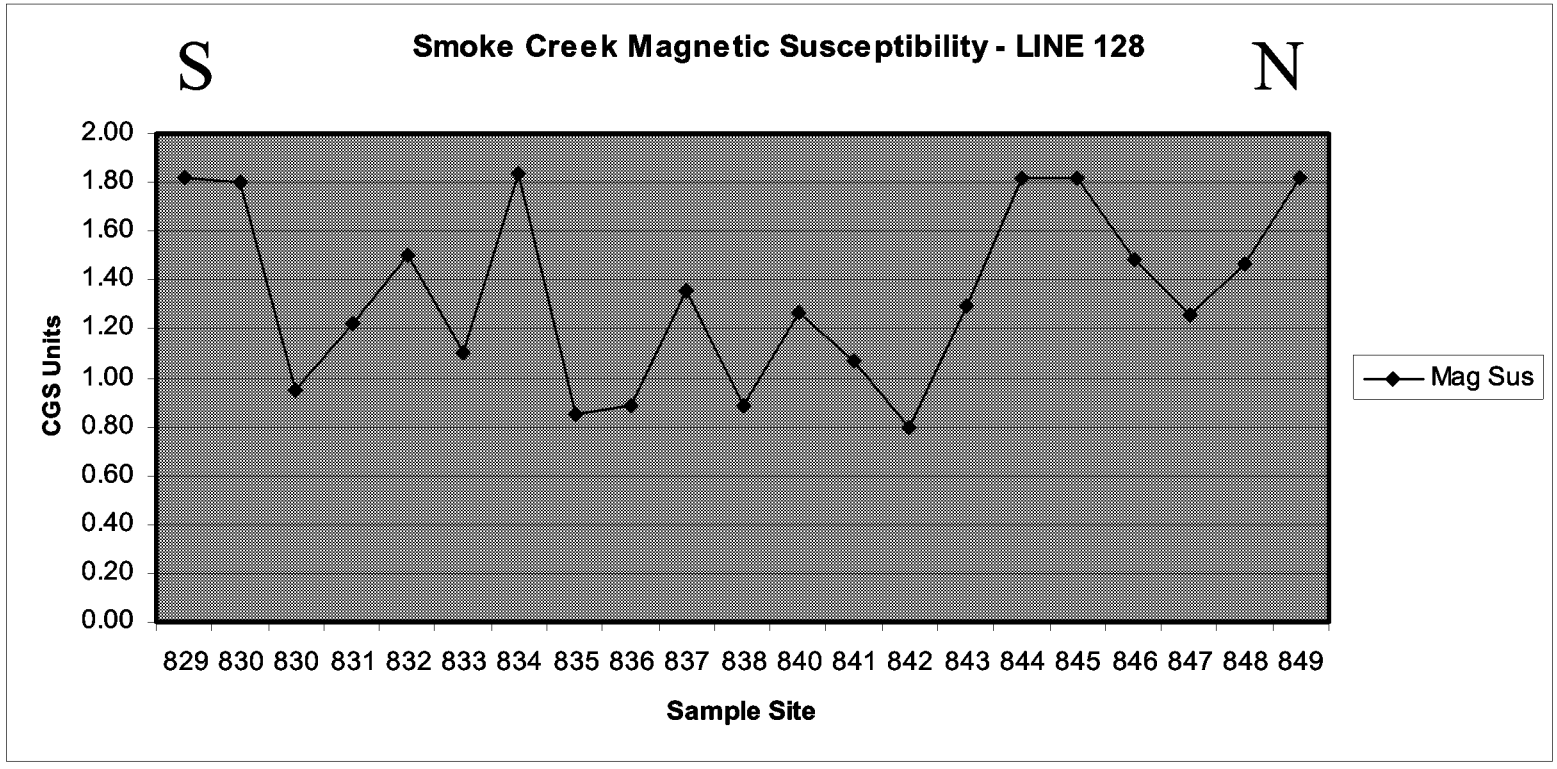


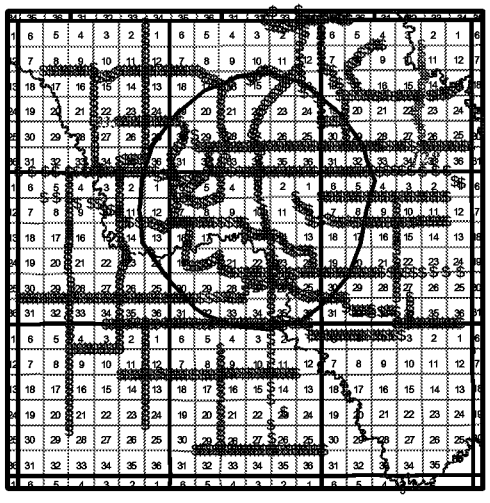
TABLE 1A

SEE APPENDIX 1

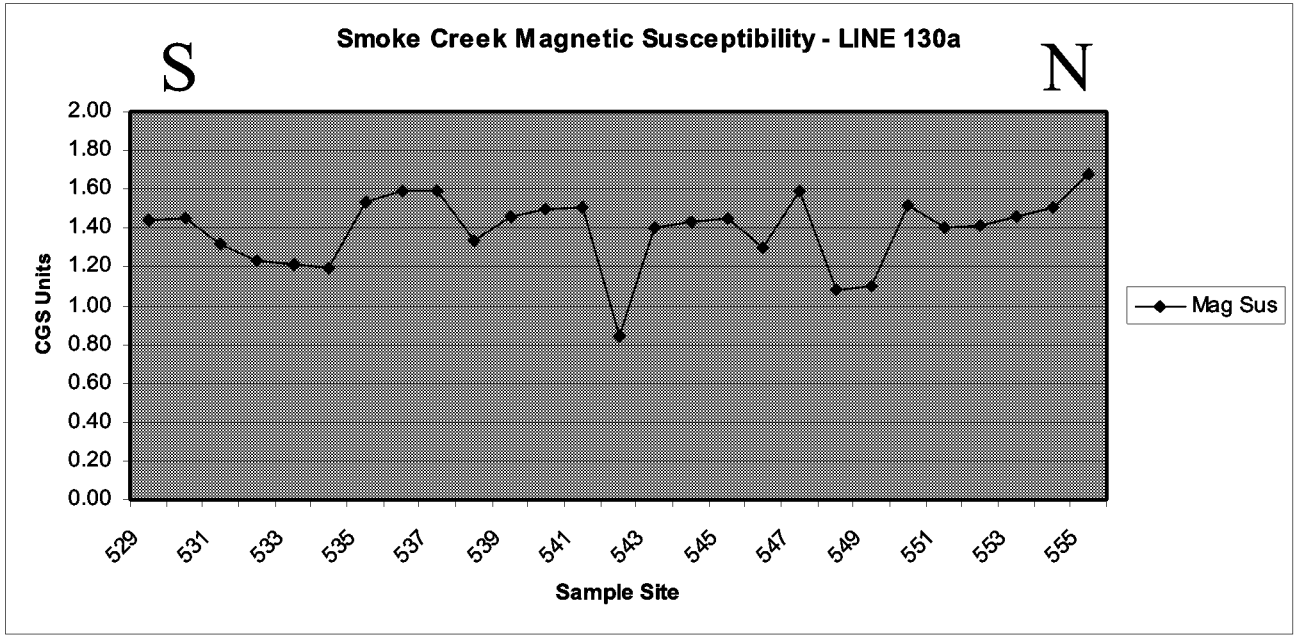
TABLE 1B

SEE APPENDIX 2





AREA 1 – LINE 128 MS



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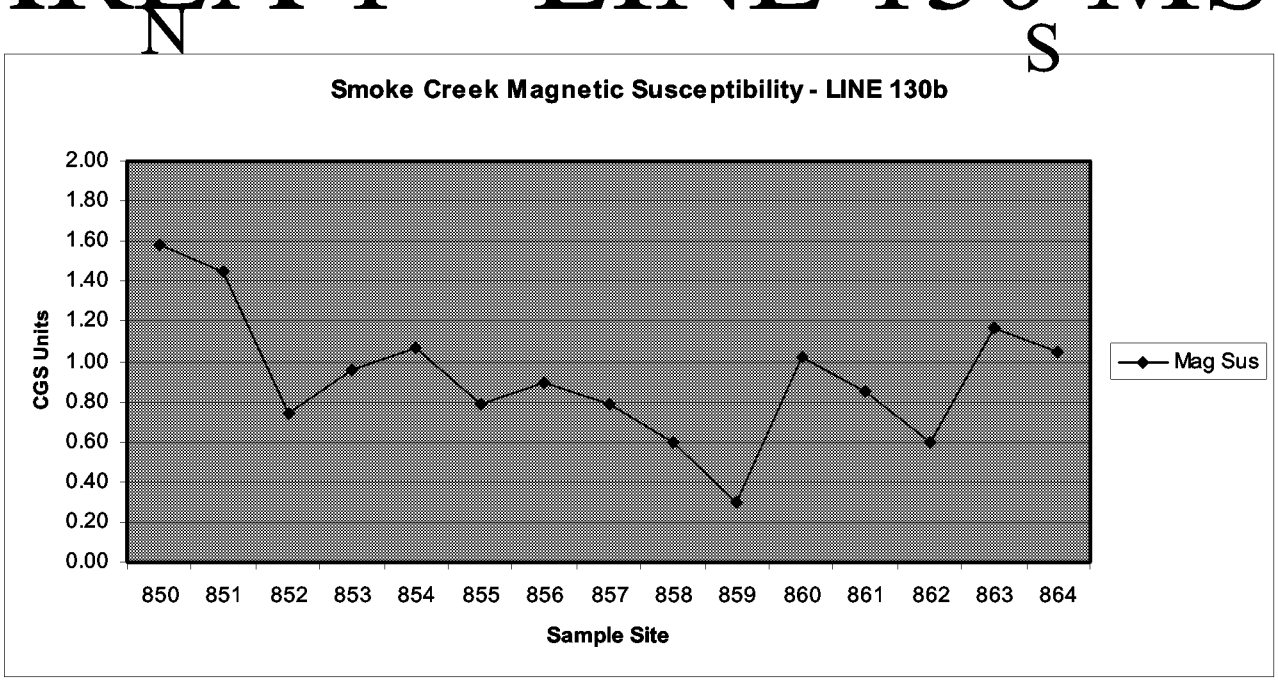

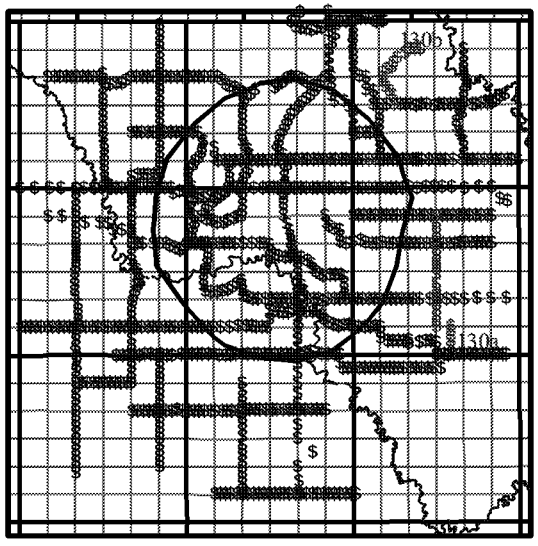

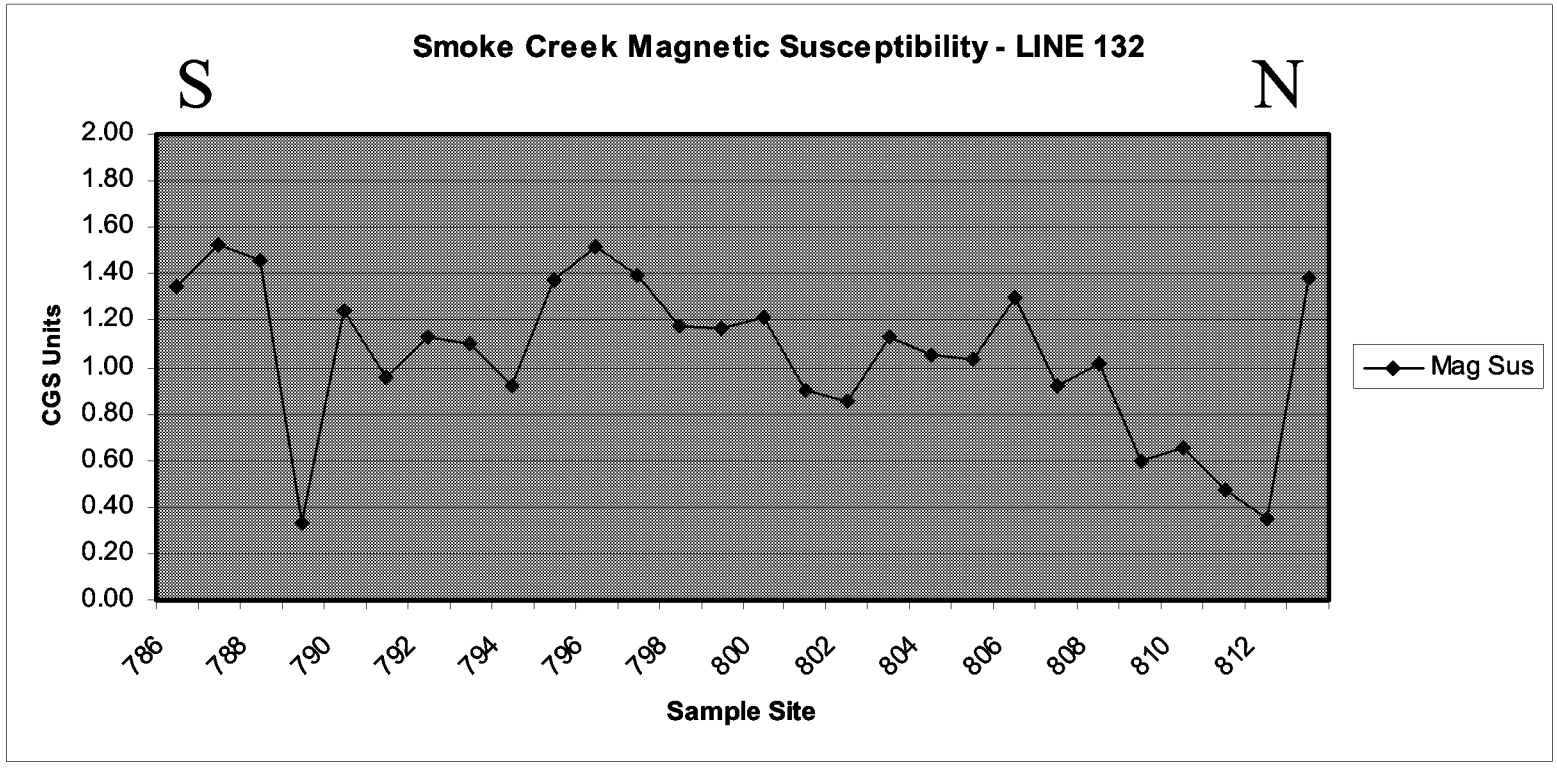

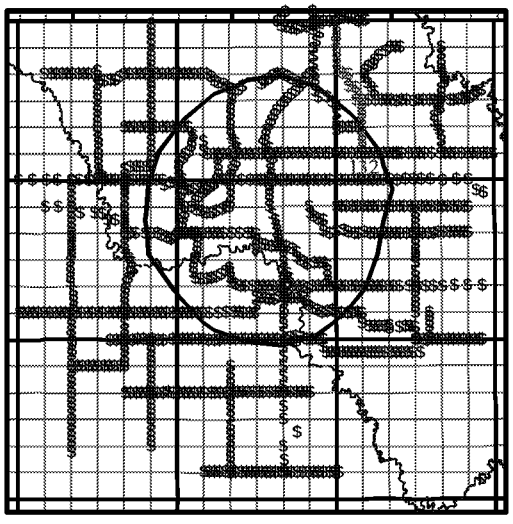

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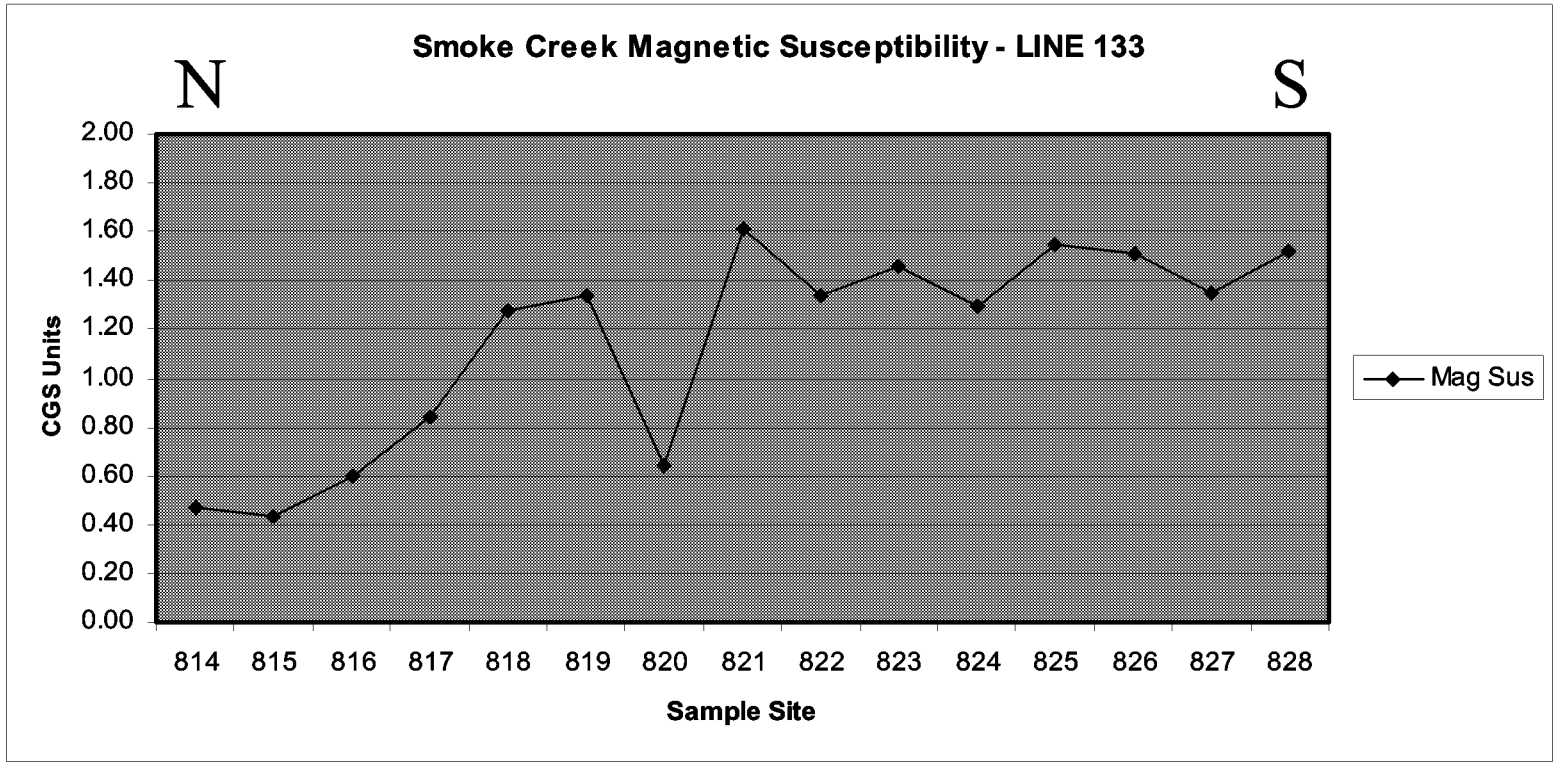

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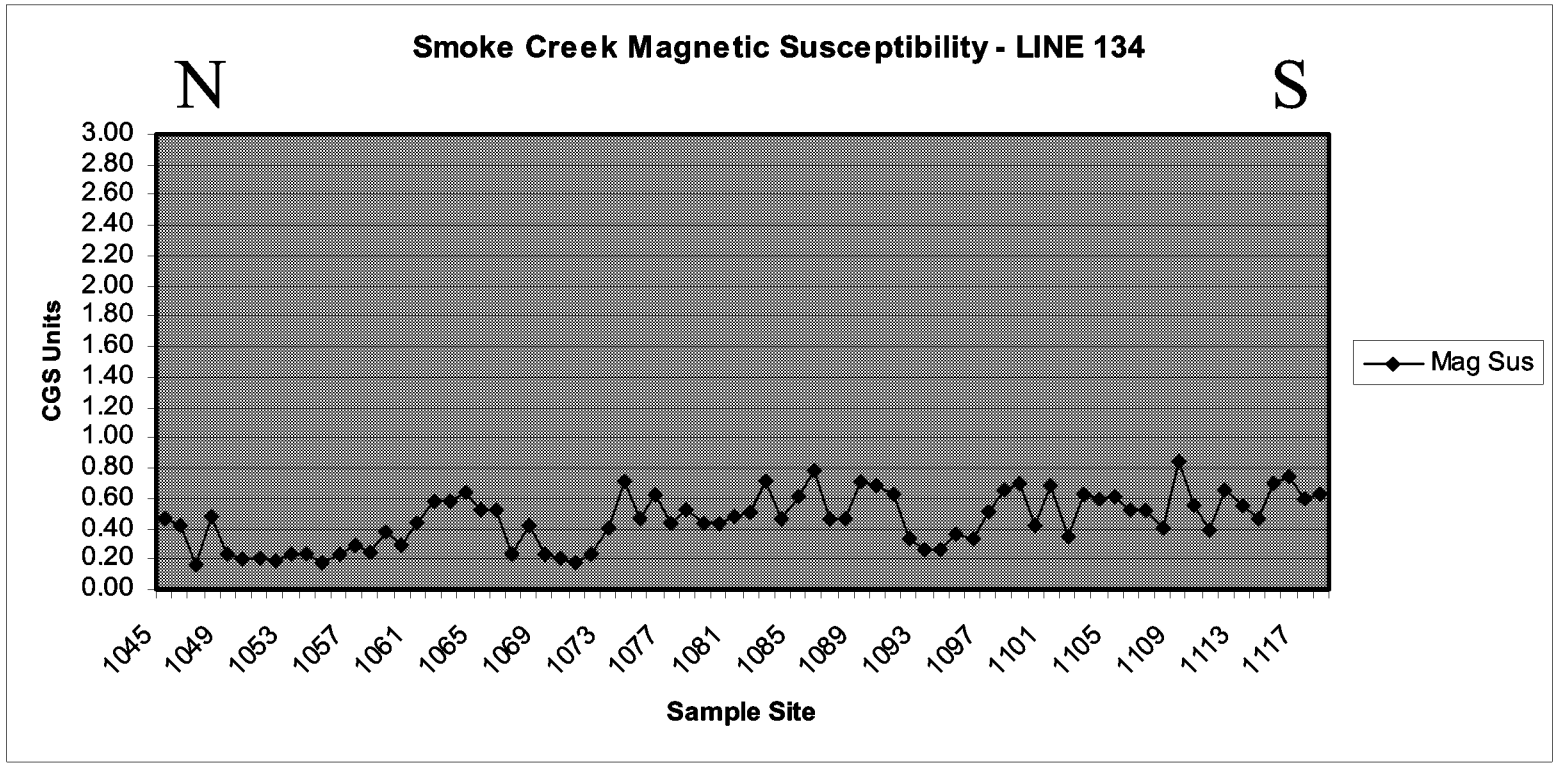

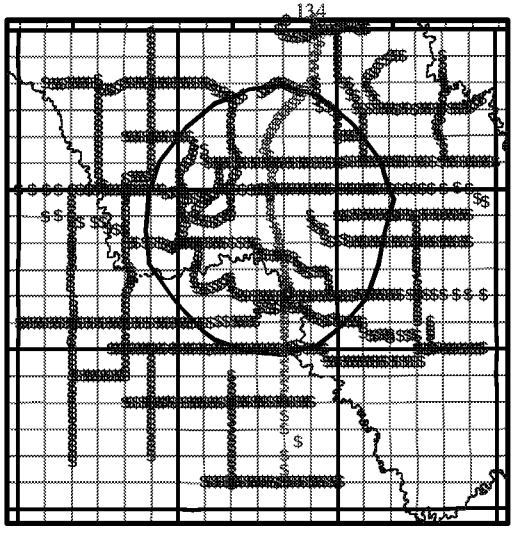

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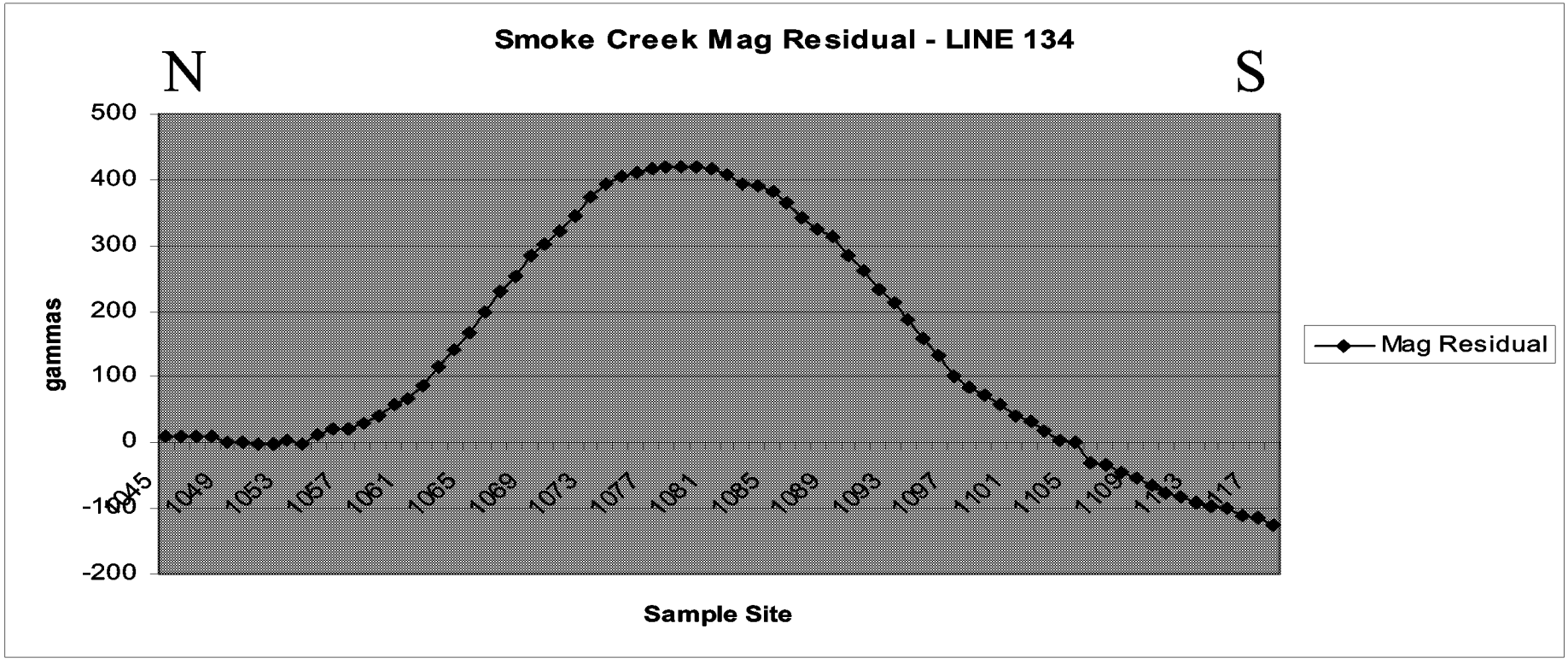

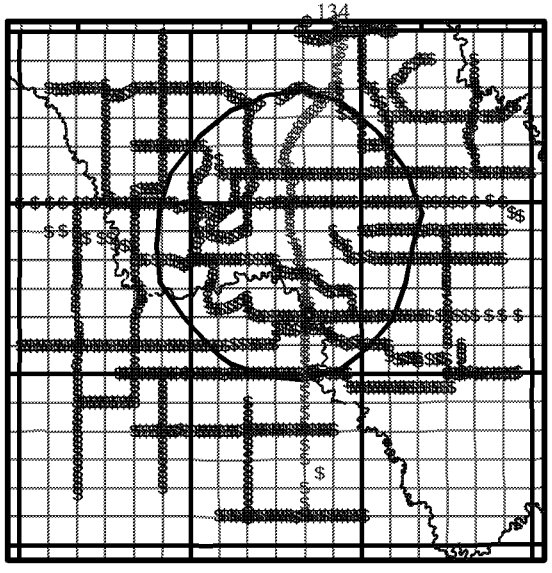

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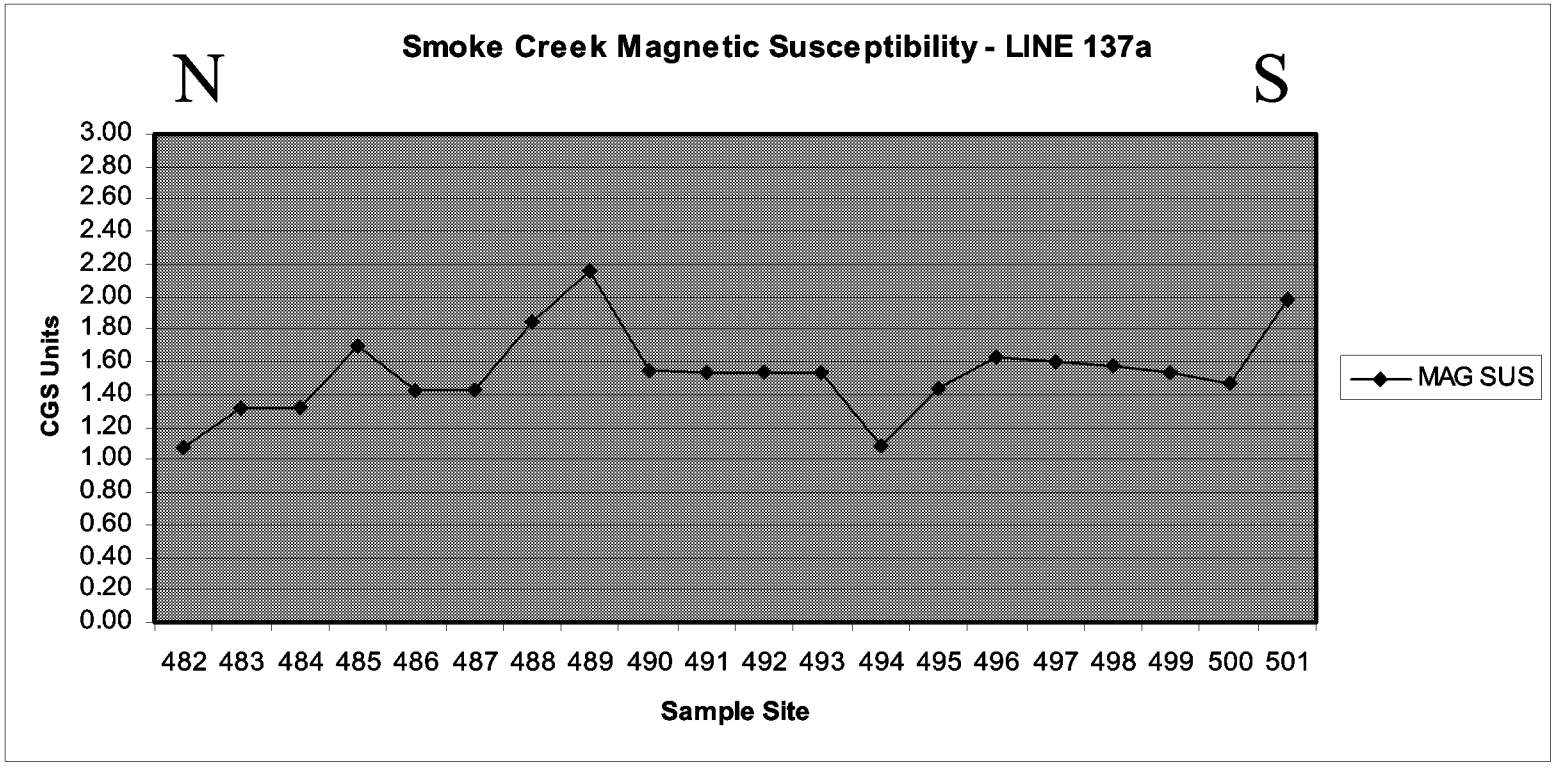

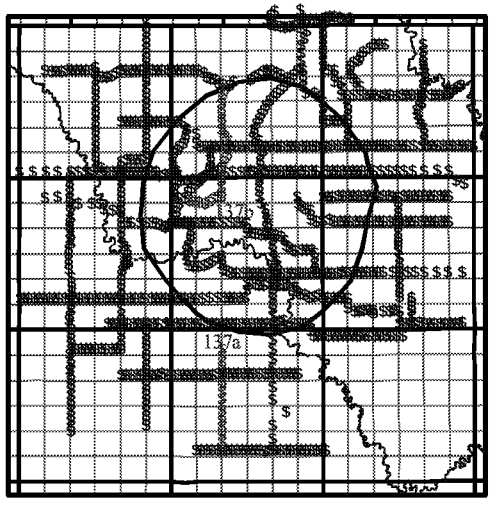

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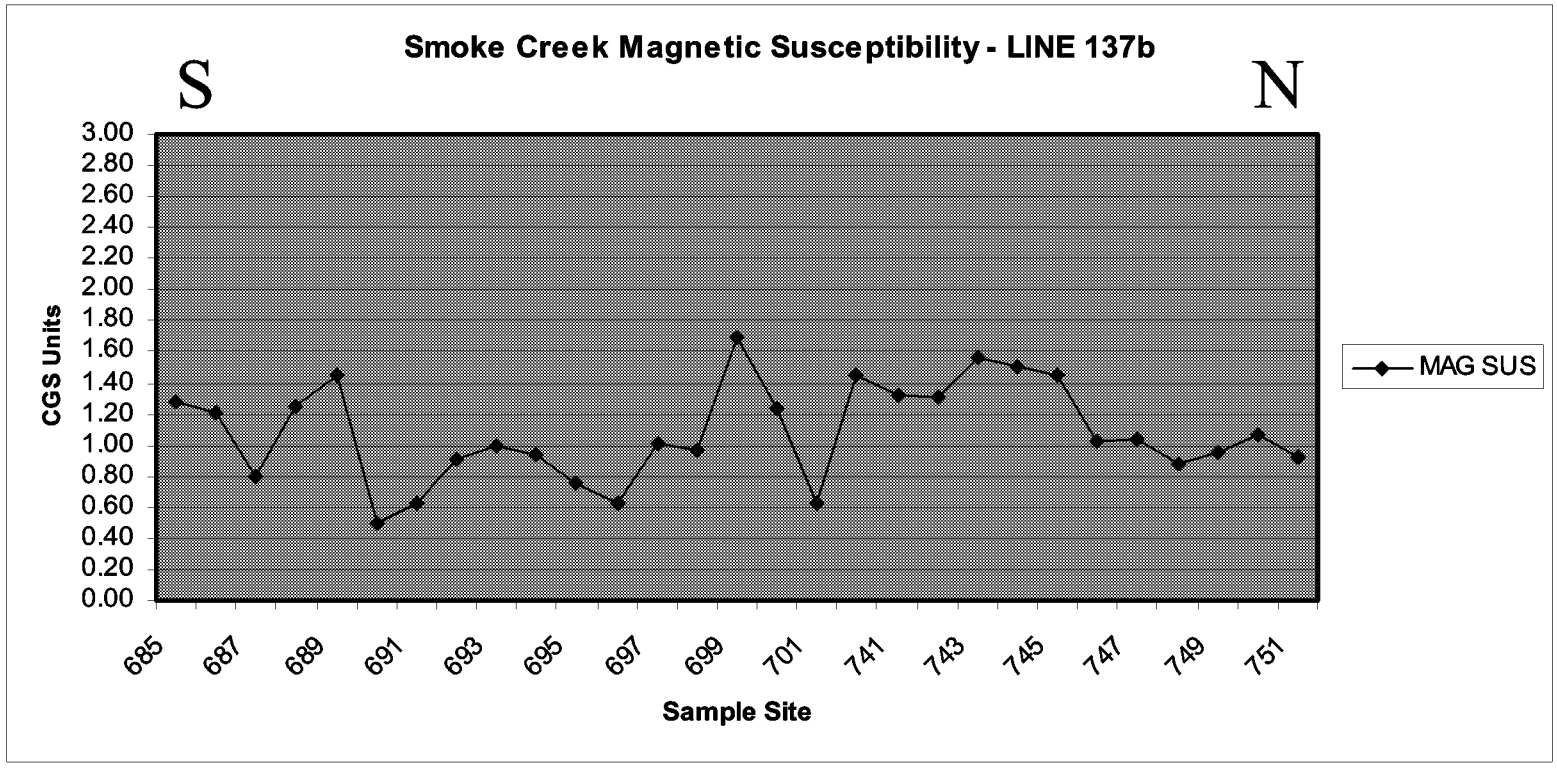

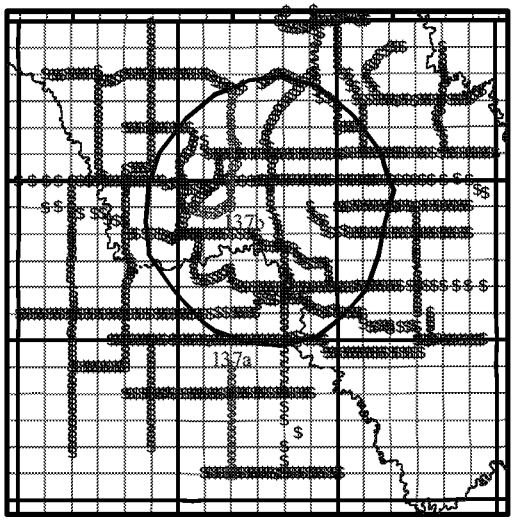

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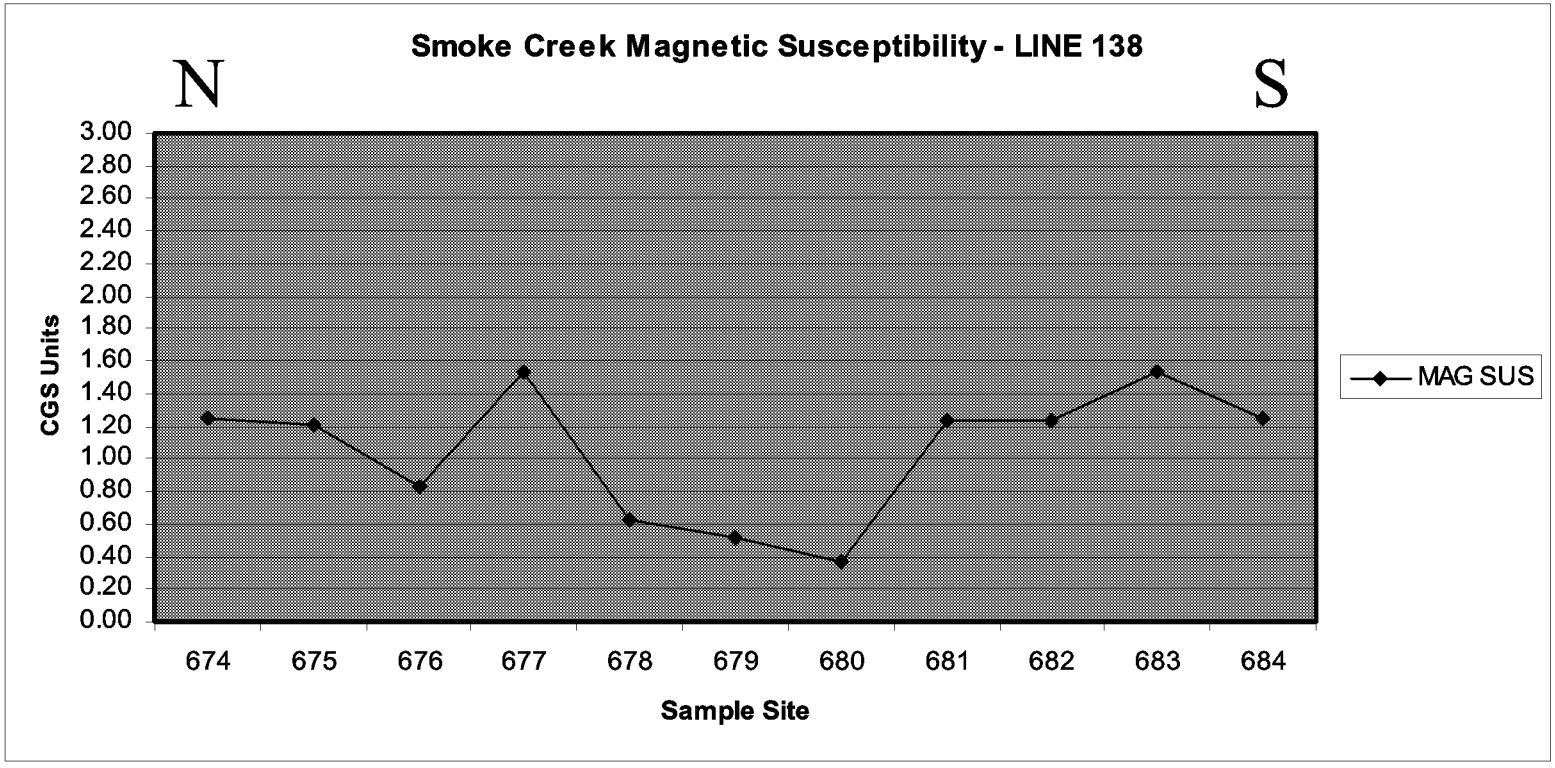

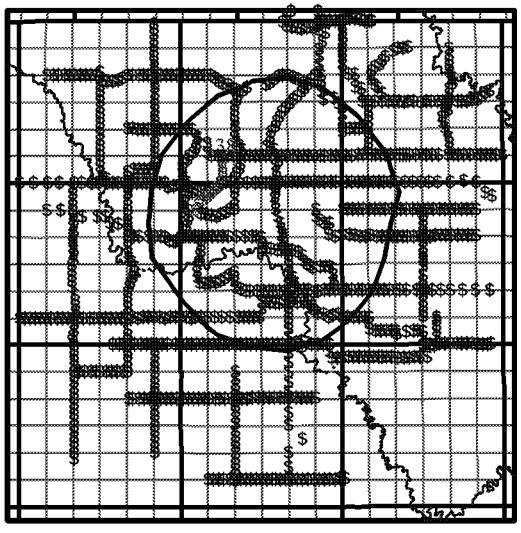

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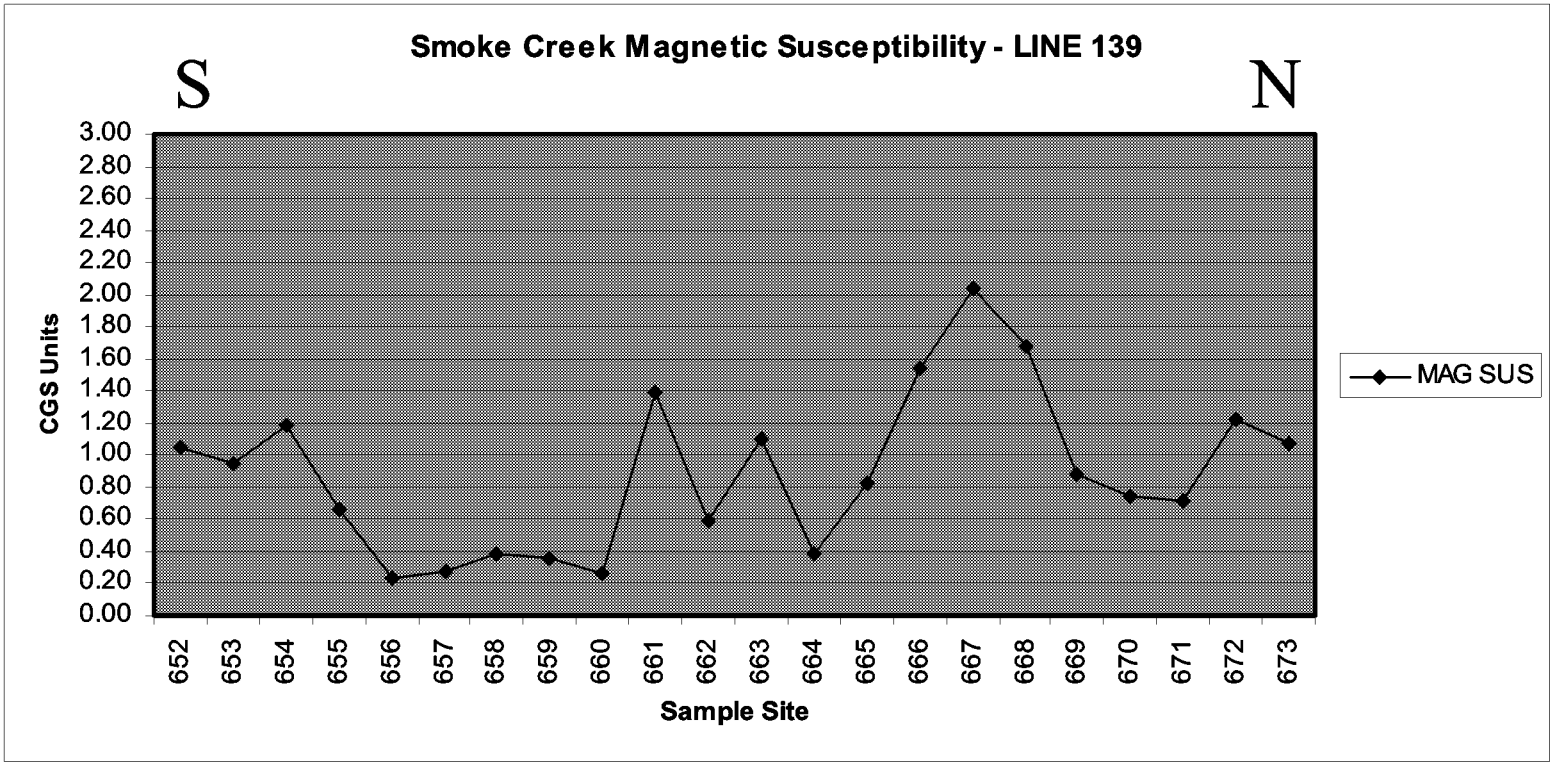

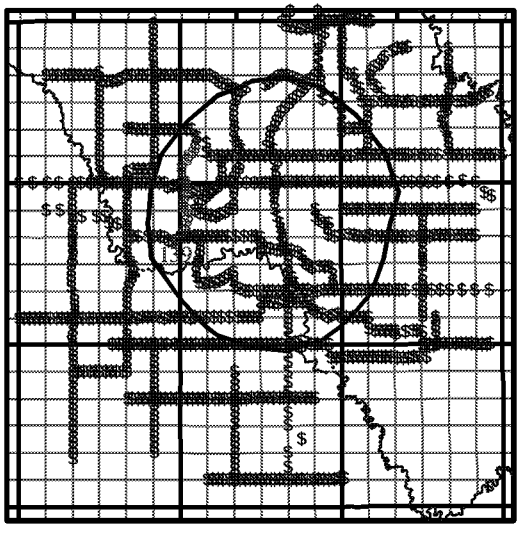

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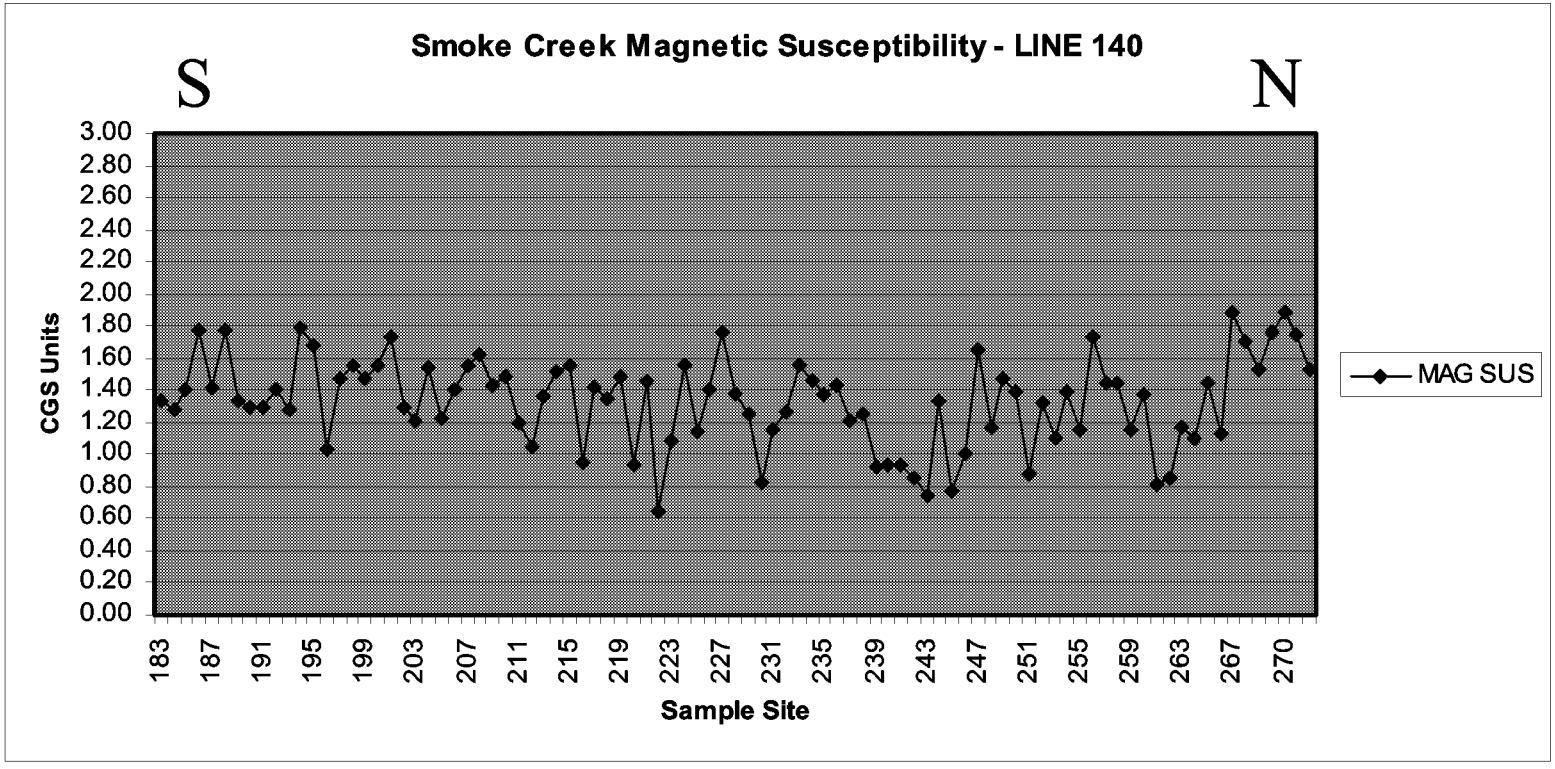

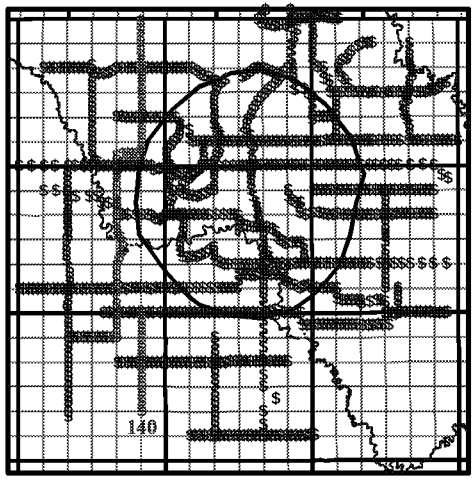

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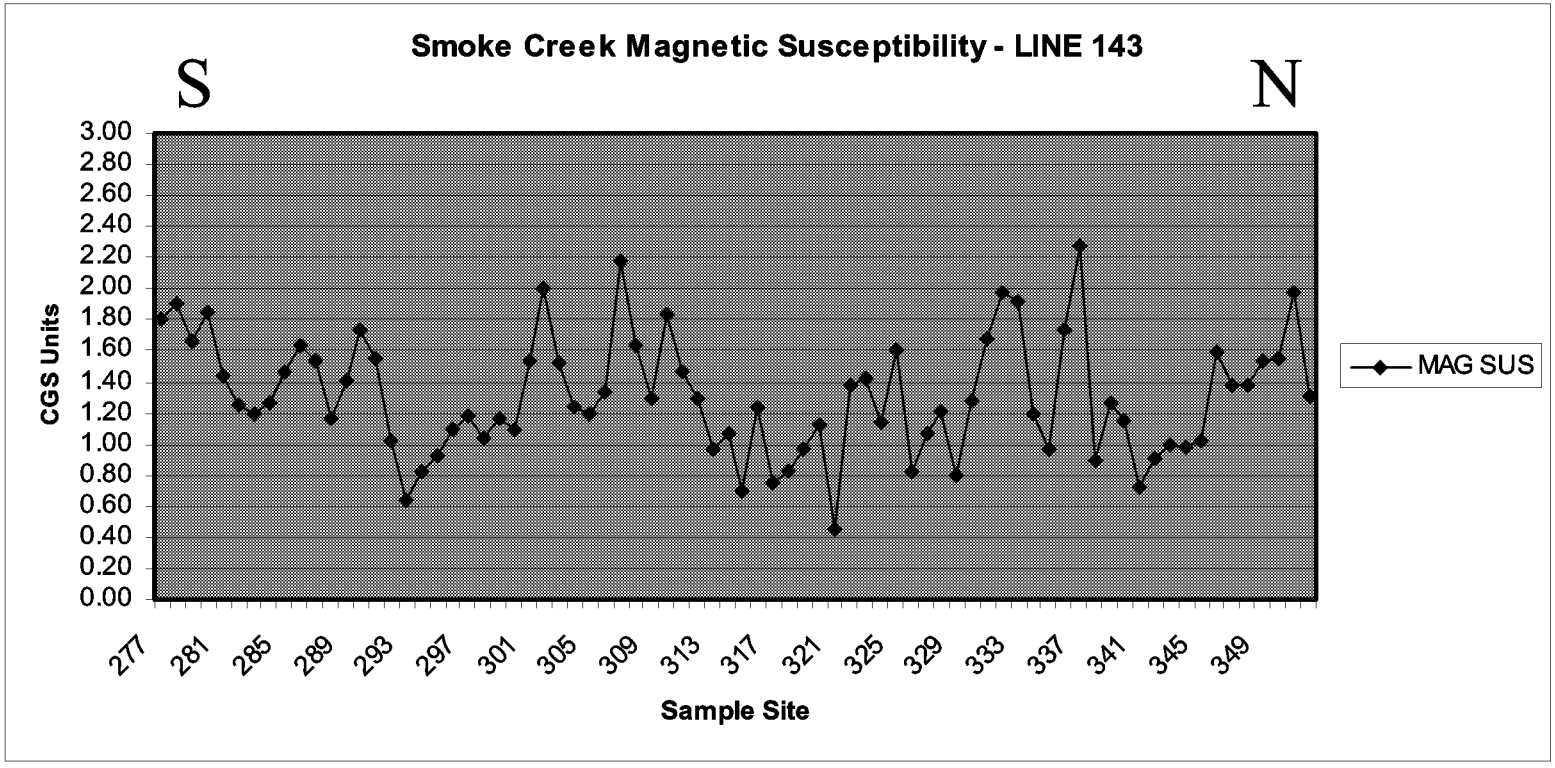

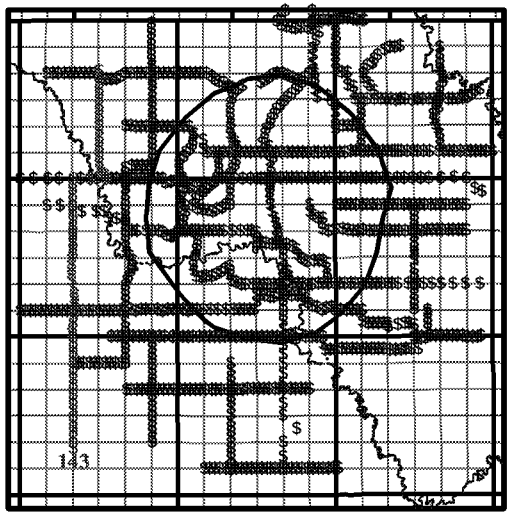

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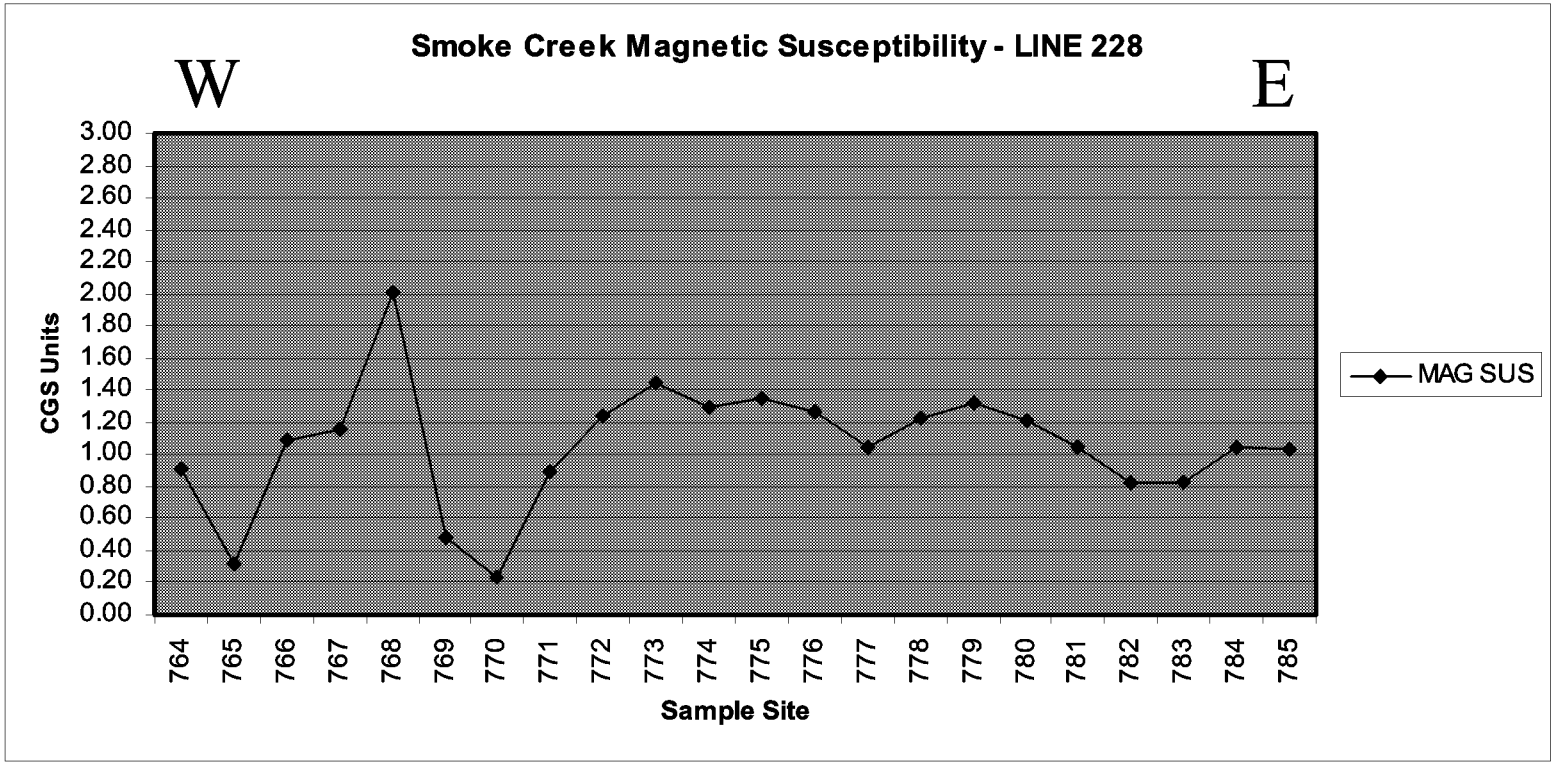
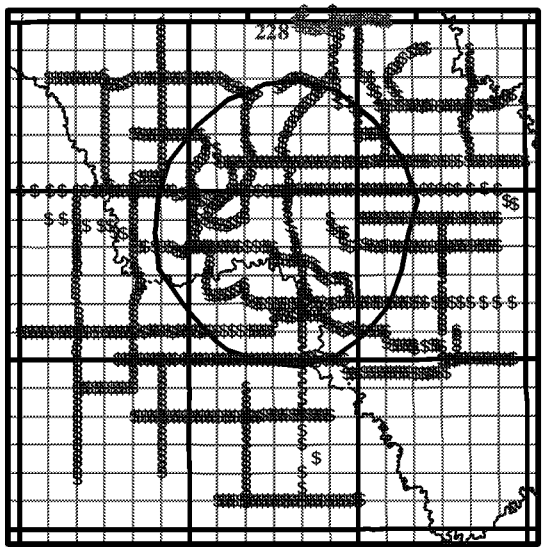
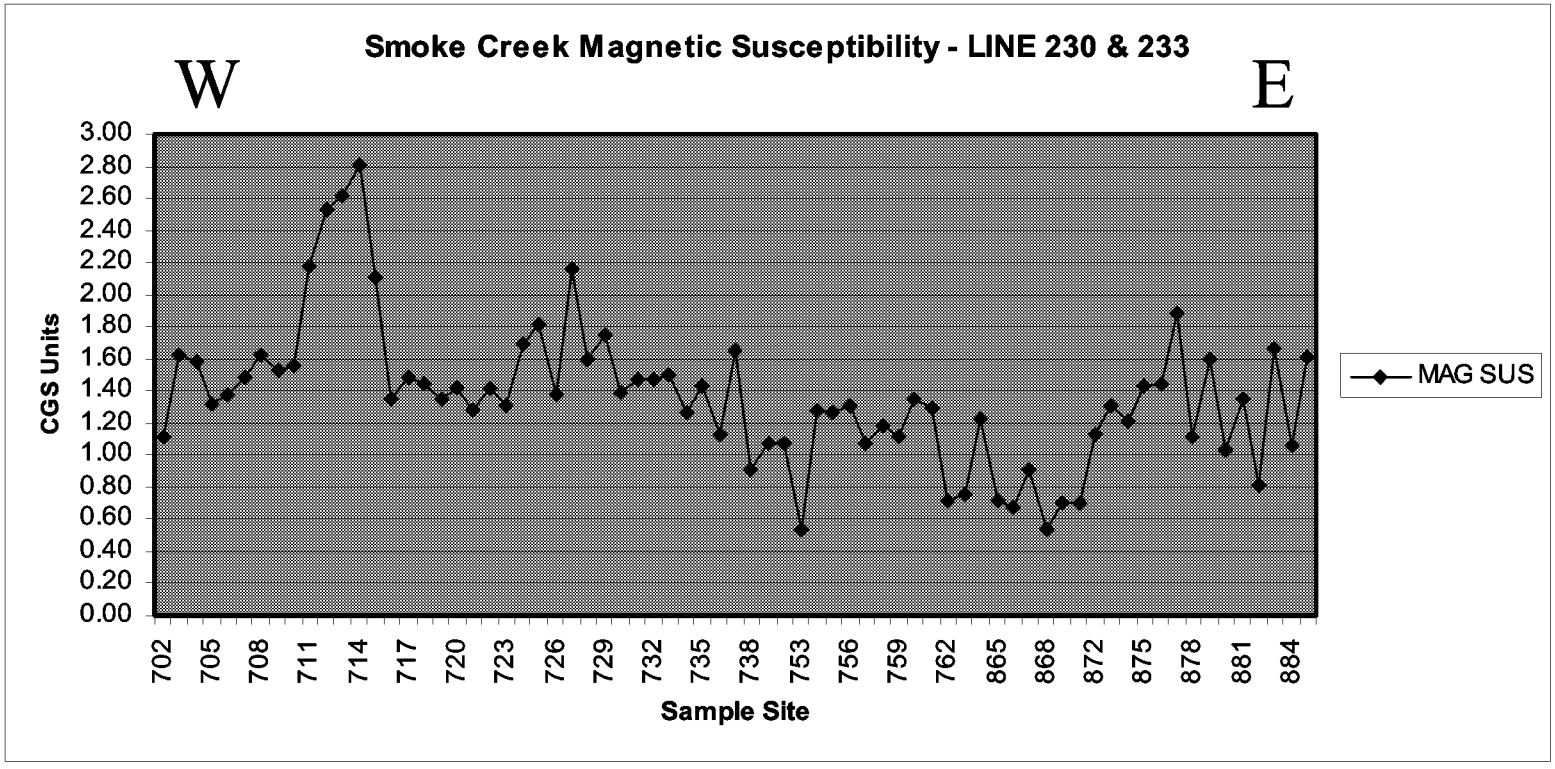
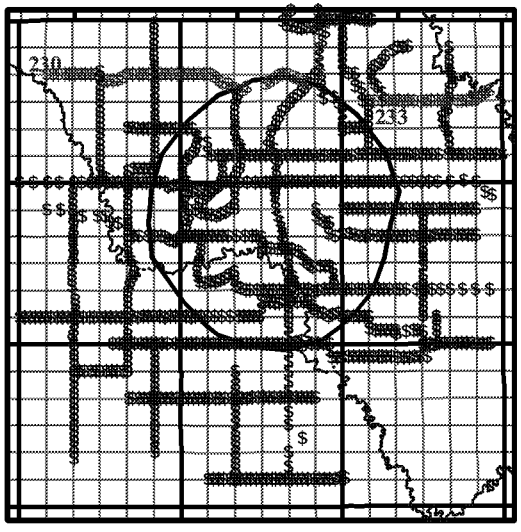


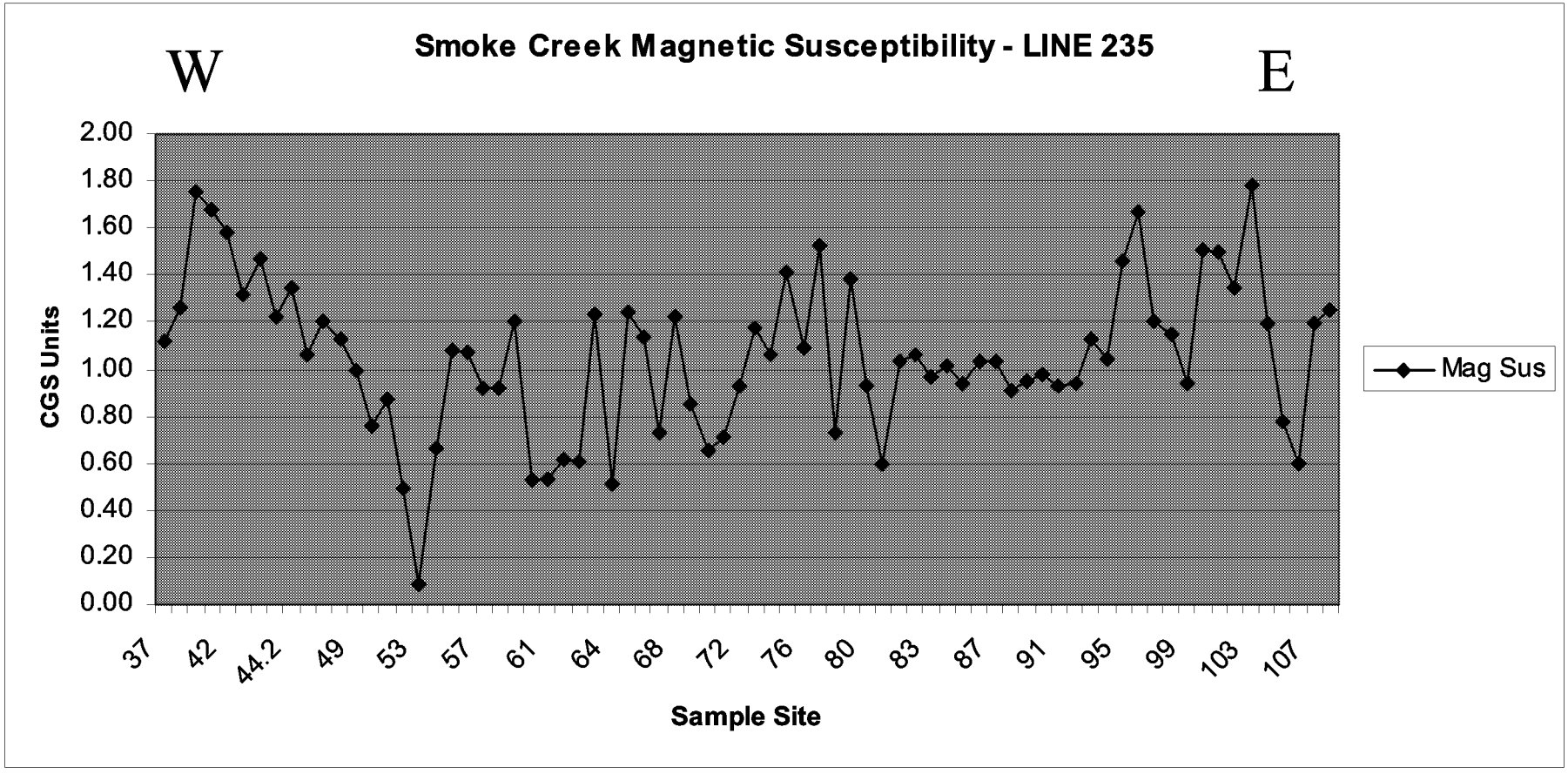


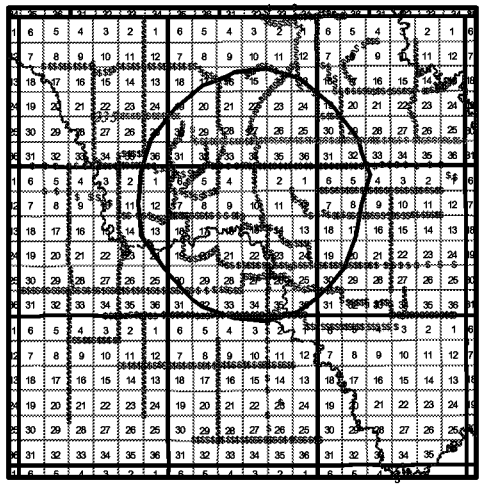
AREA 1 – LINE 228 MS



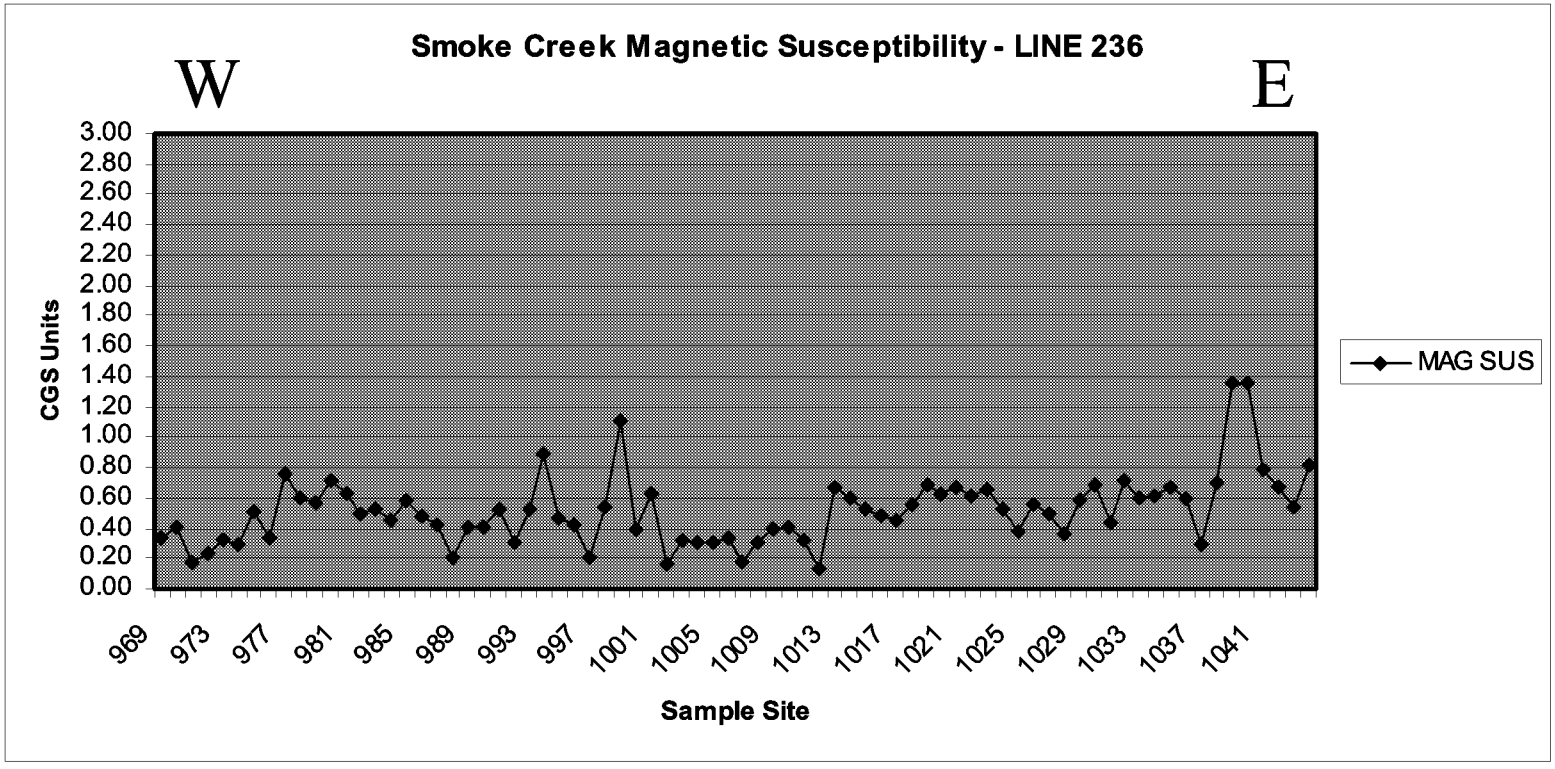


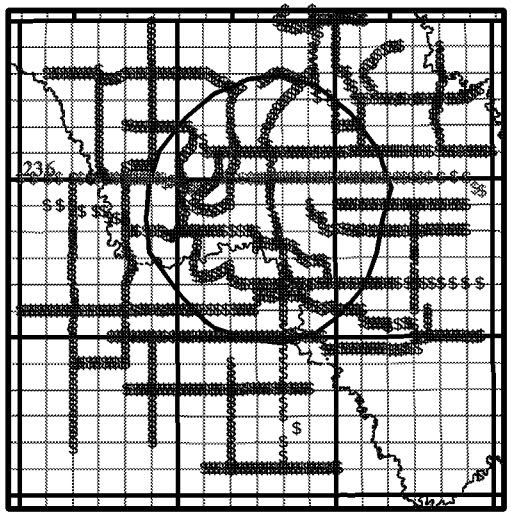
AREA 1 – LINE 230 & 233 MS



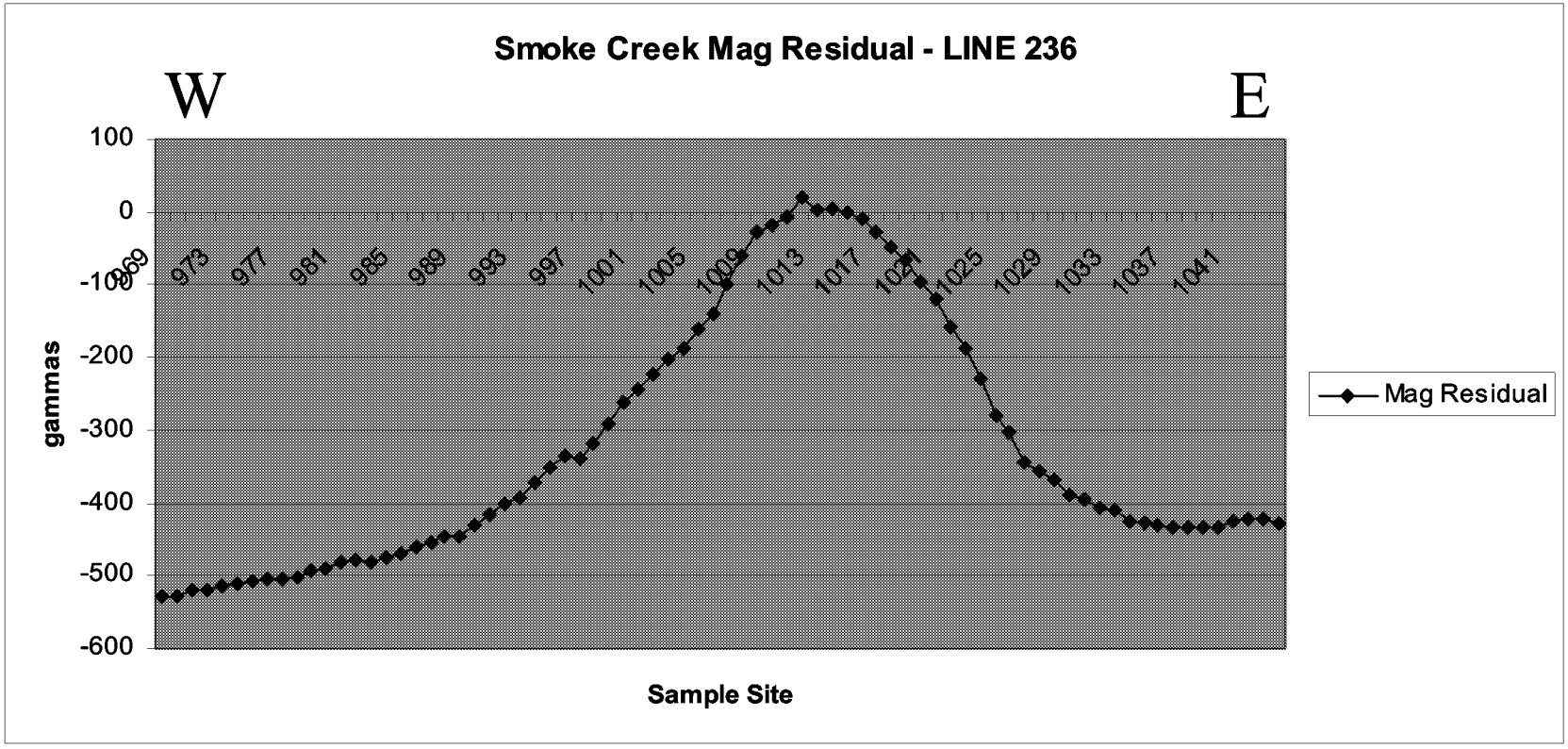


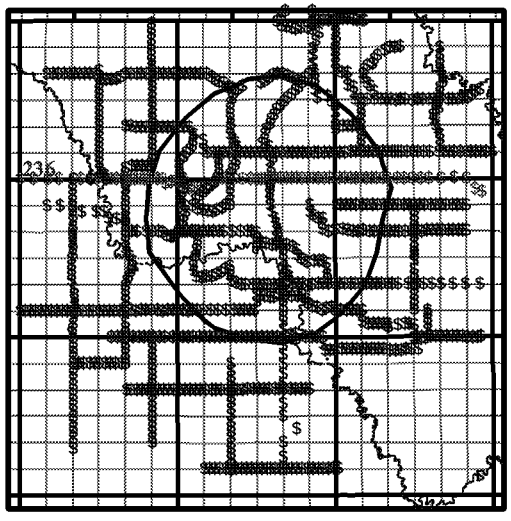
AREA 1 – LINE 235 MS



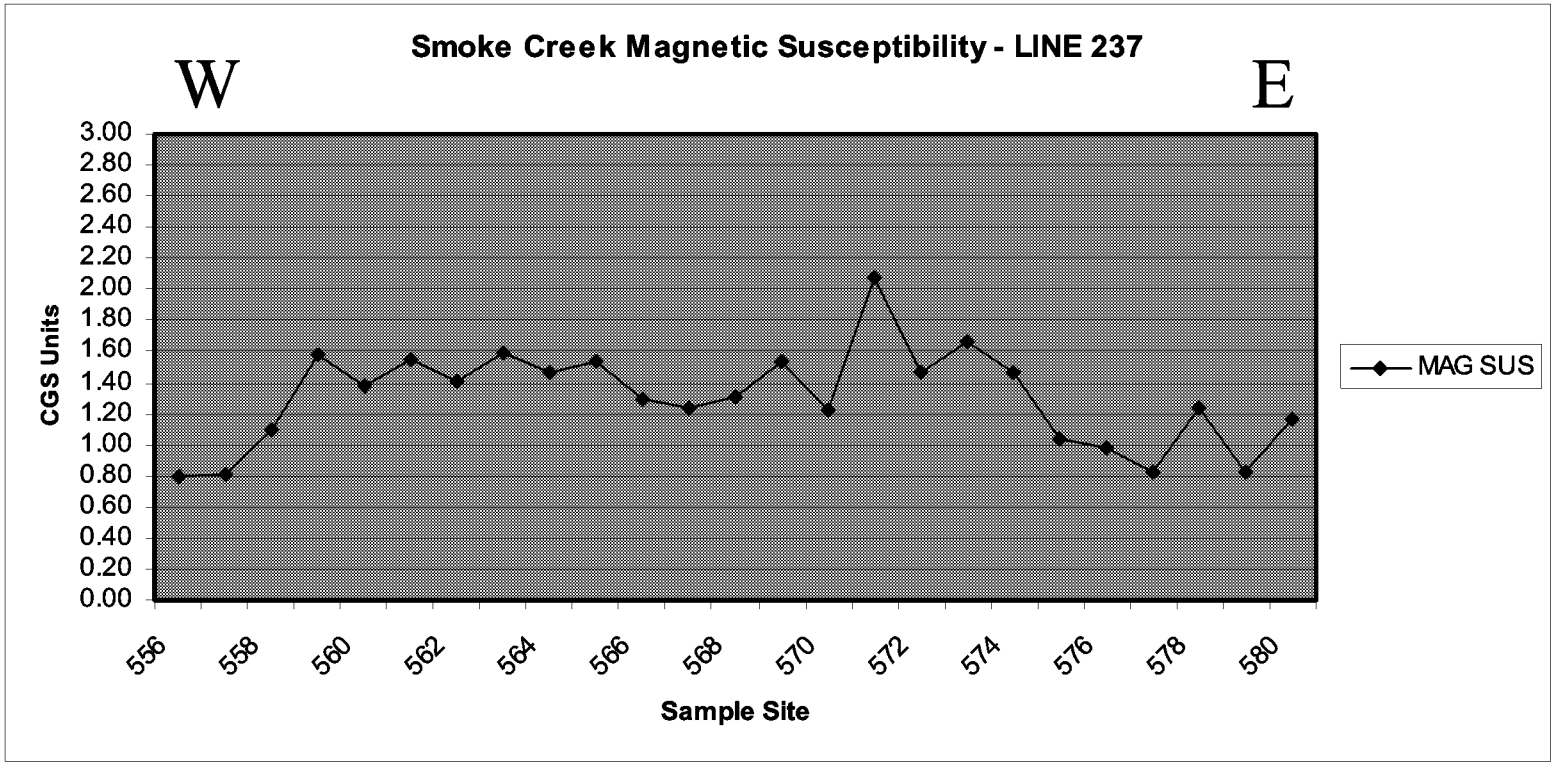


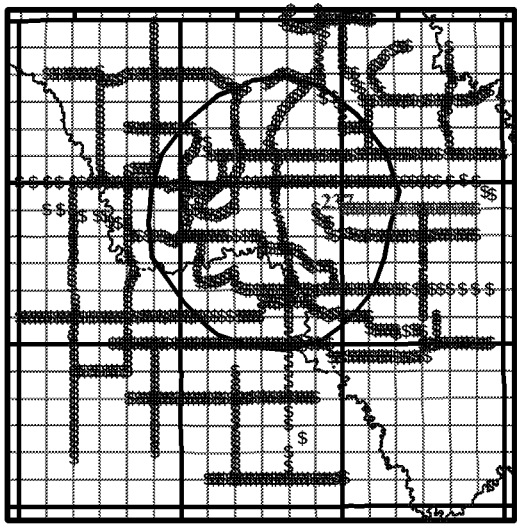
AREA 1 – LINE 236 MS



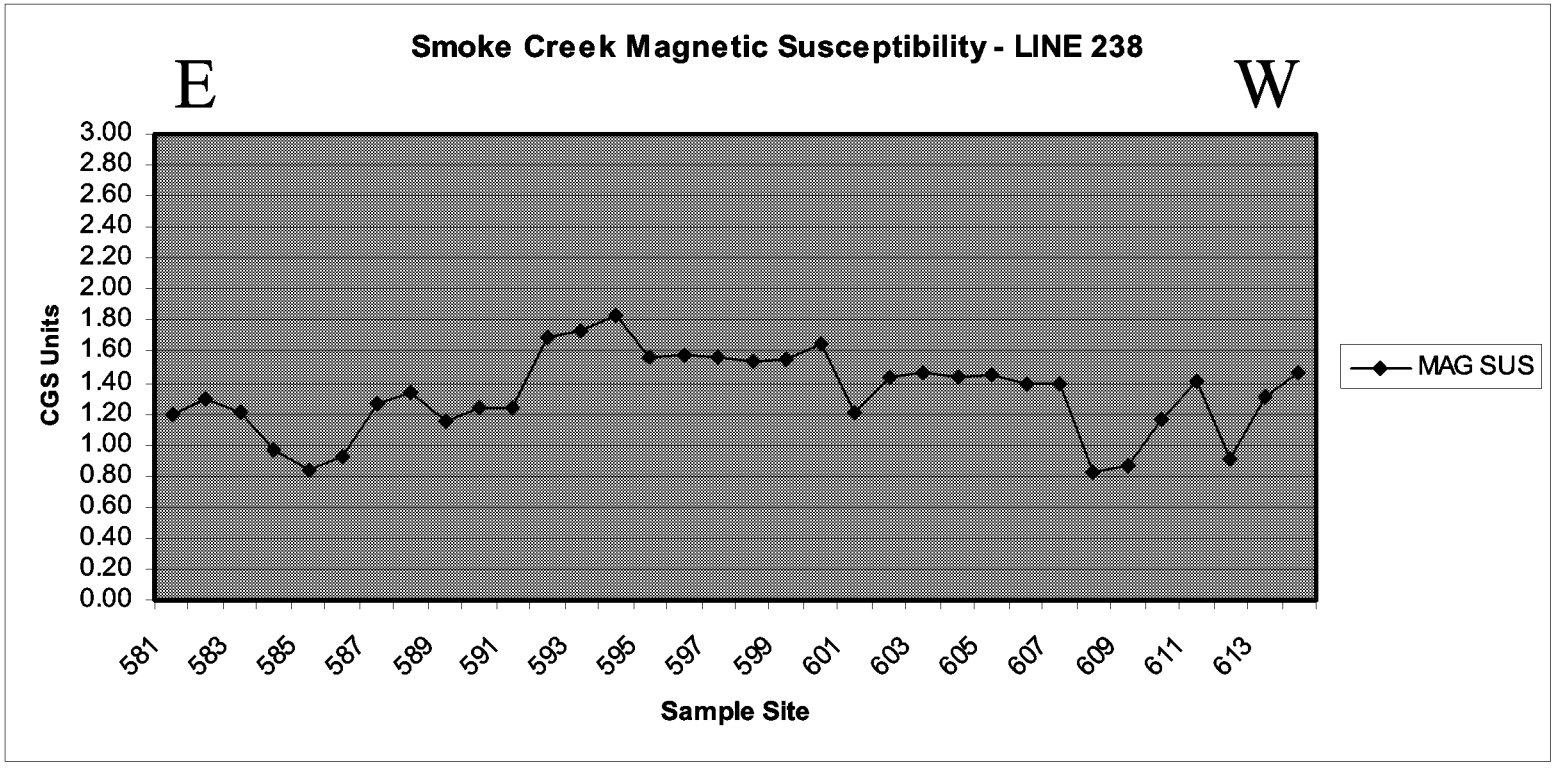


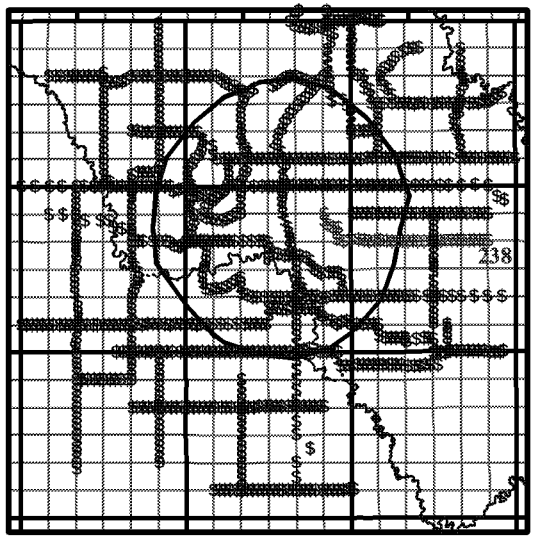
AREA 1 – LINE 236 MAG



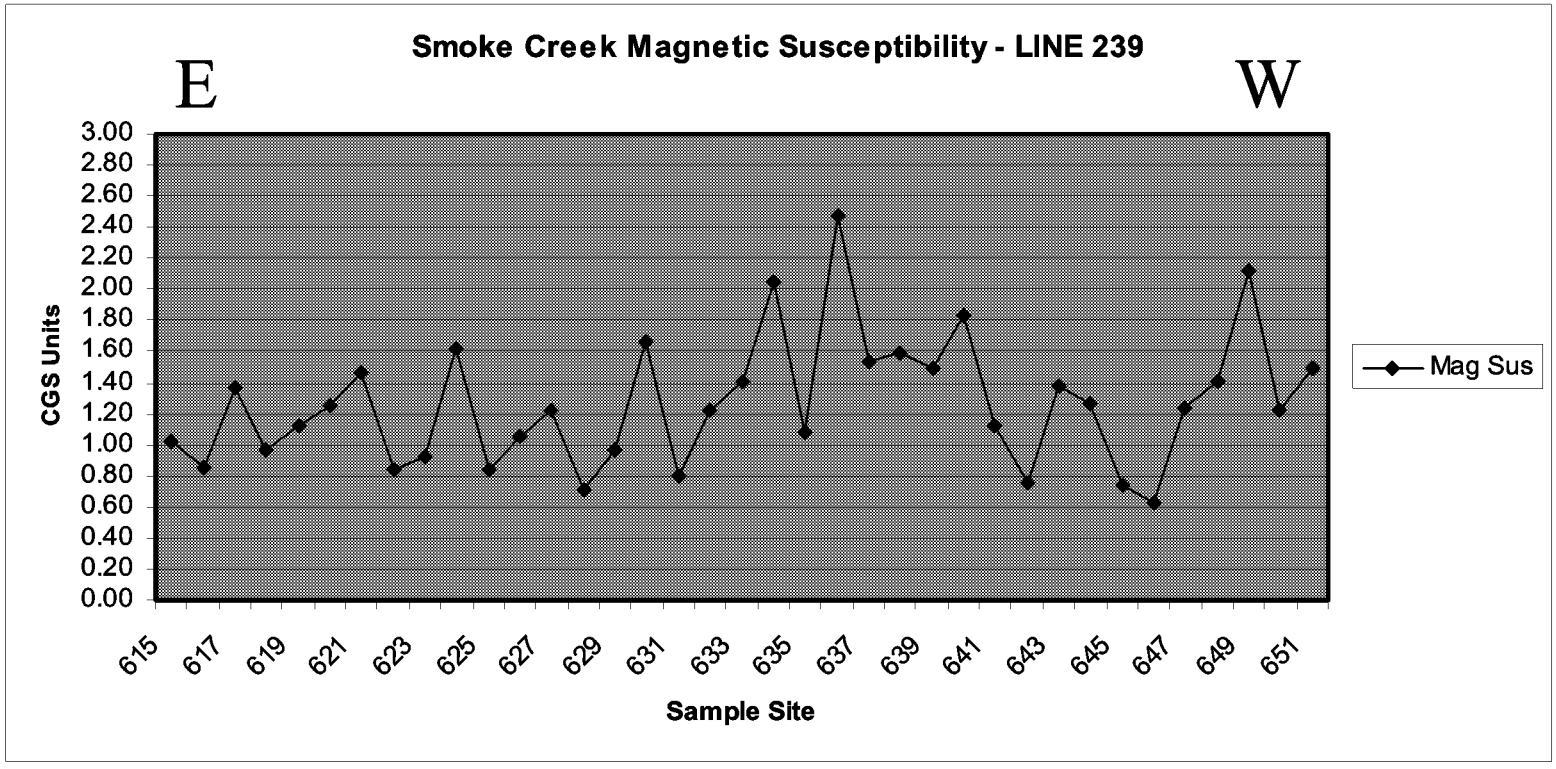


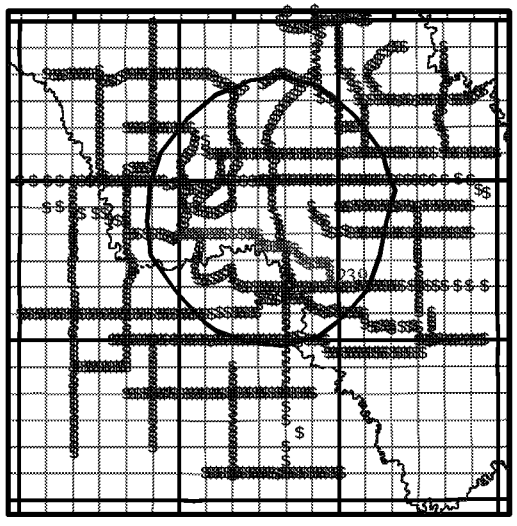
AREA 1 – LINE 237 MS



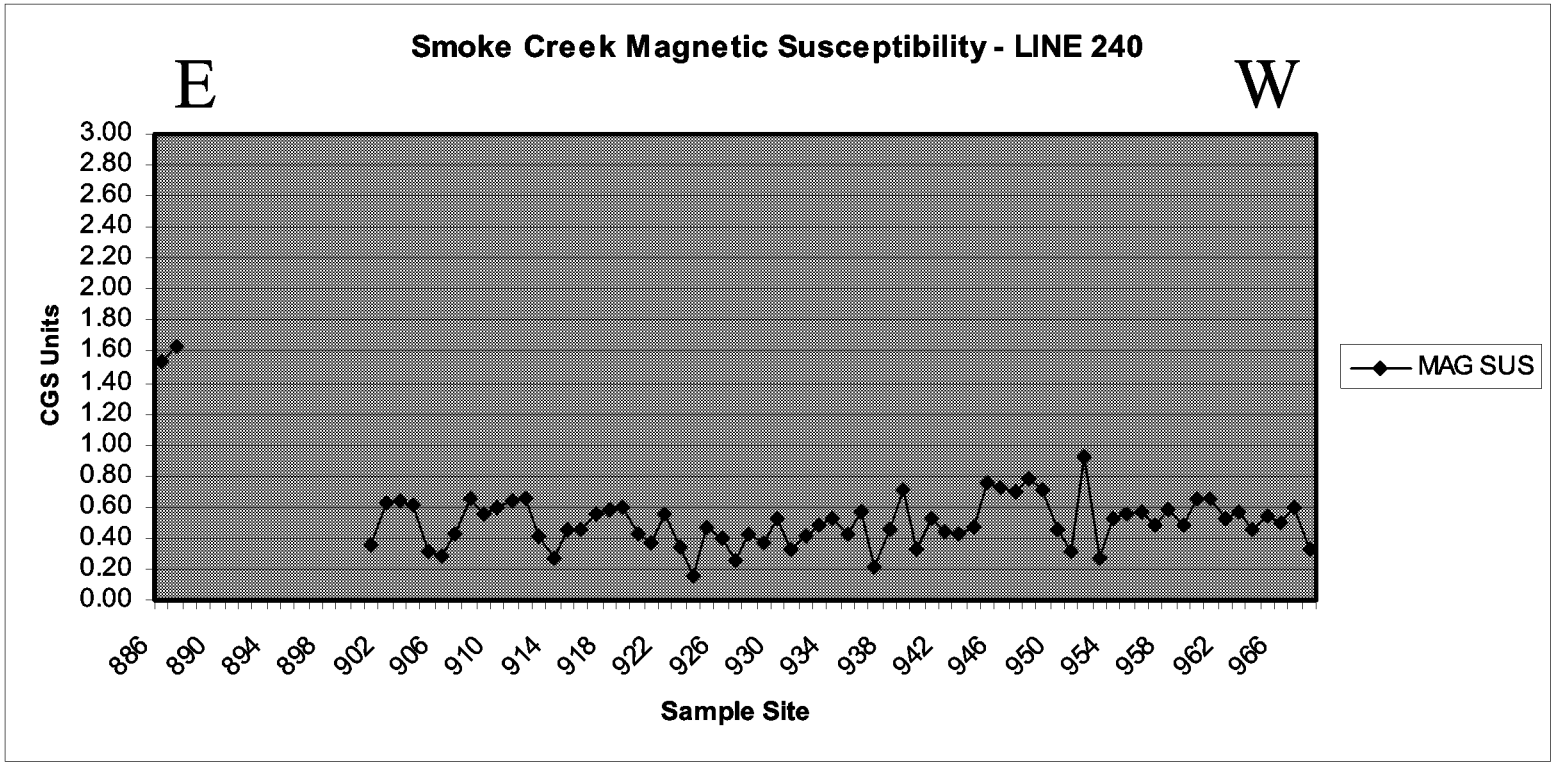


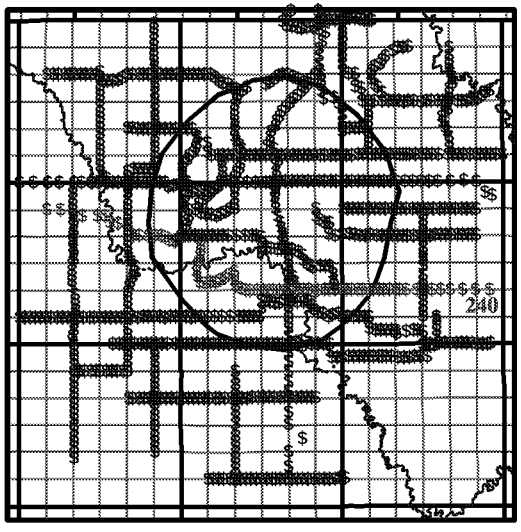
AREA 1 – LINE 238 MS



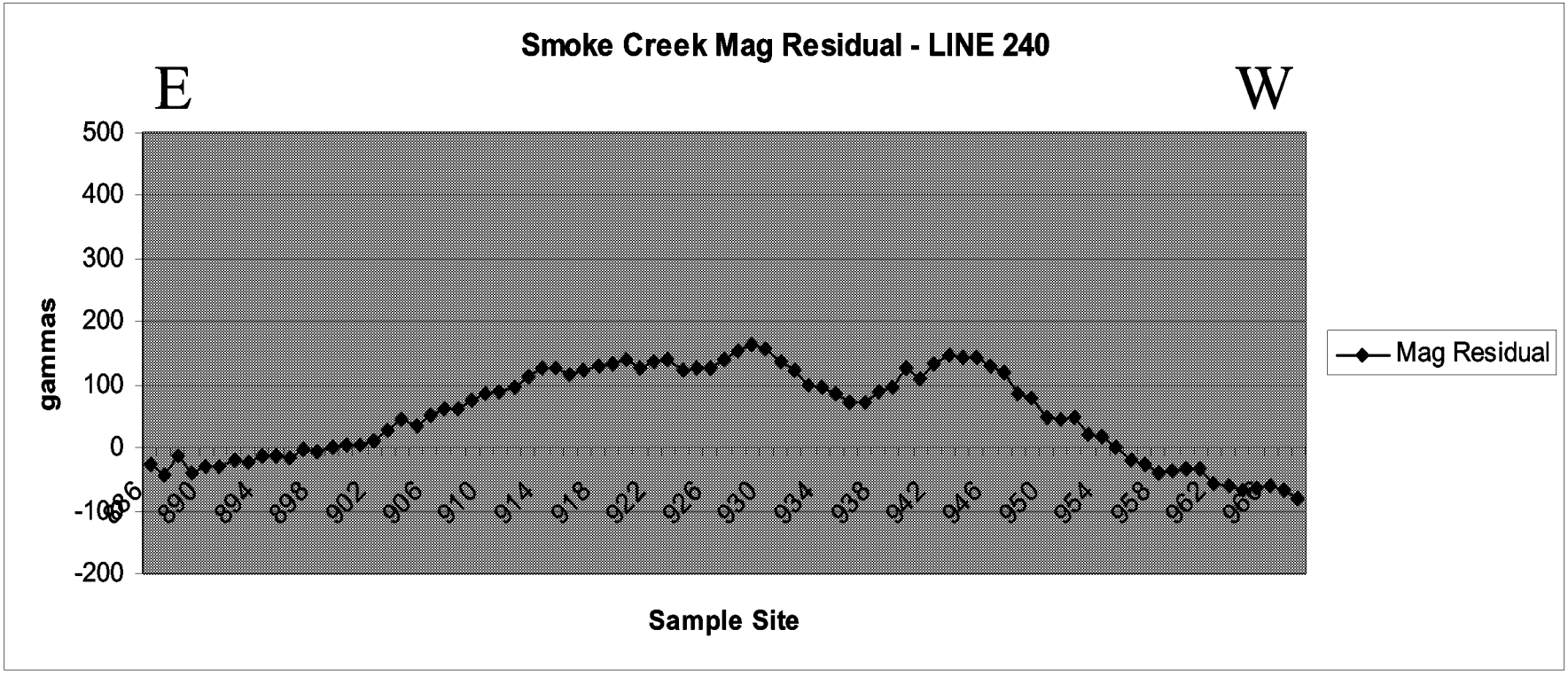


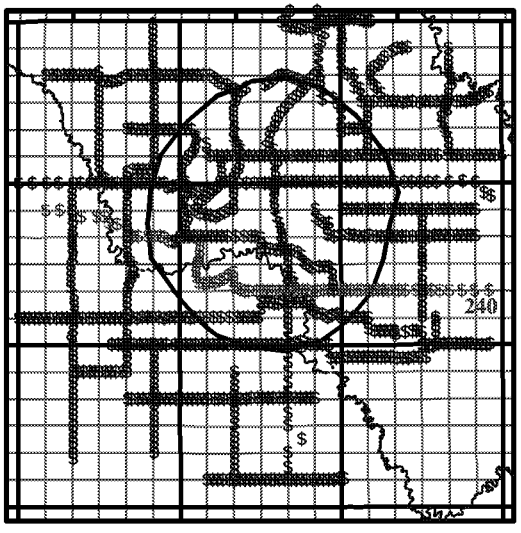
AREA 1 – LINE 239 MS



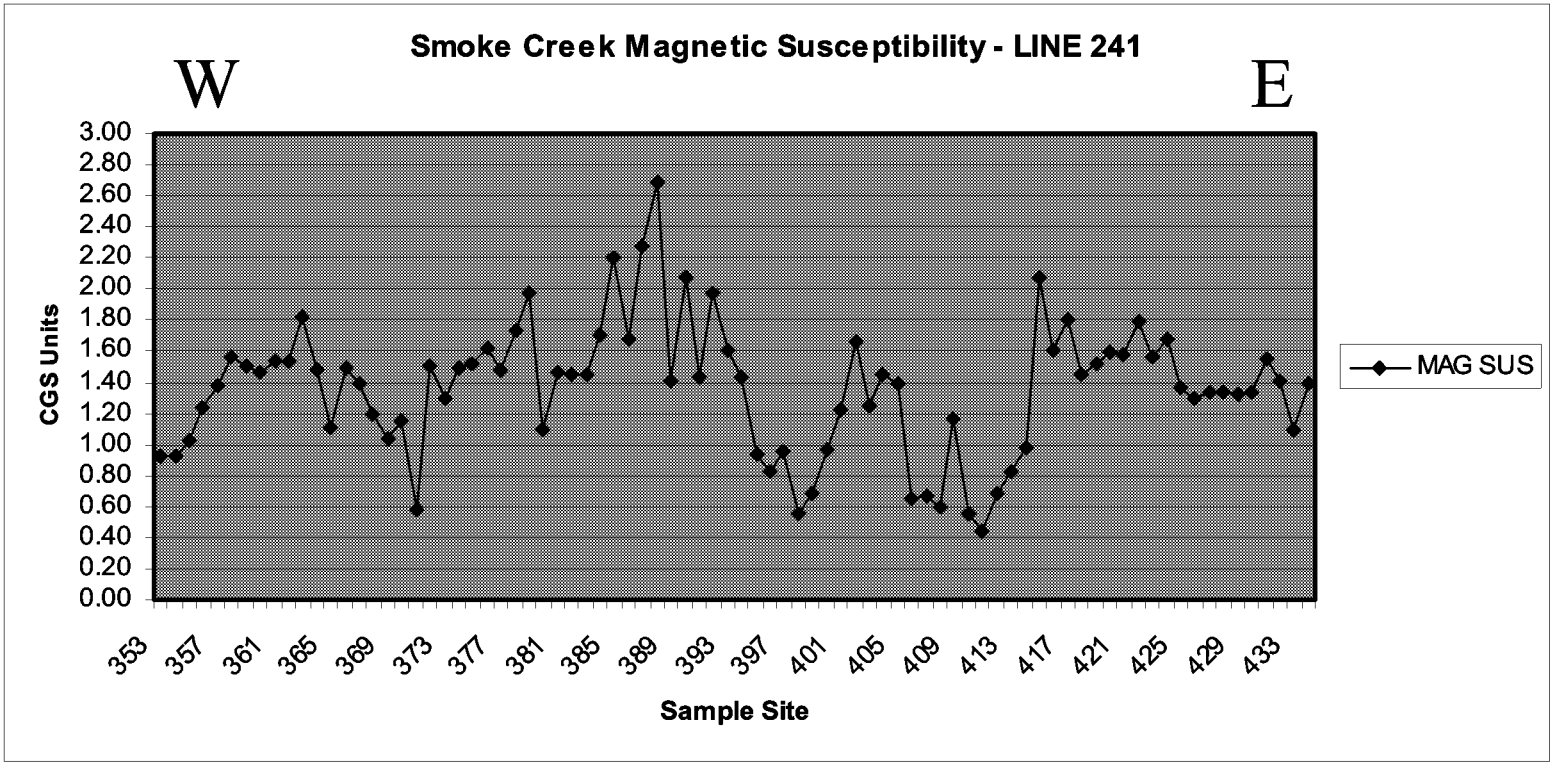


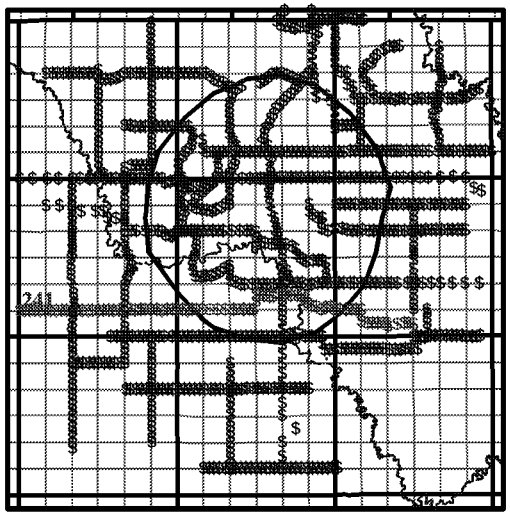
AREA 1– LINE 240 MS



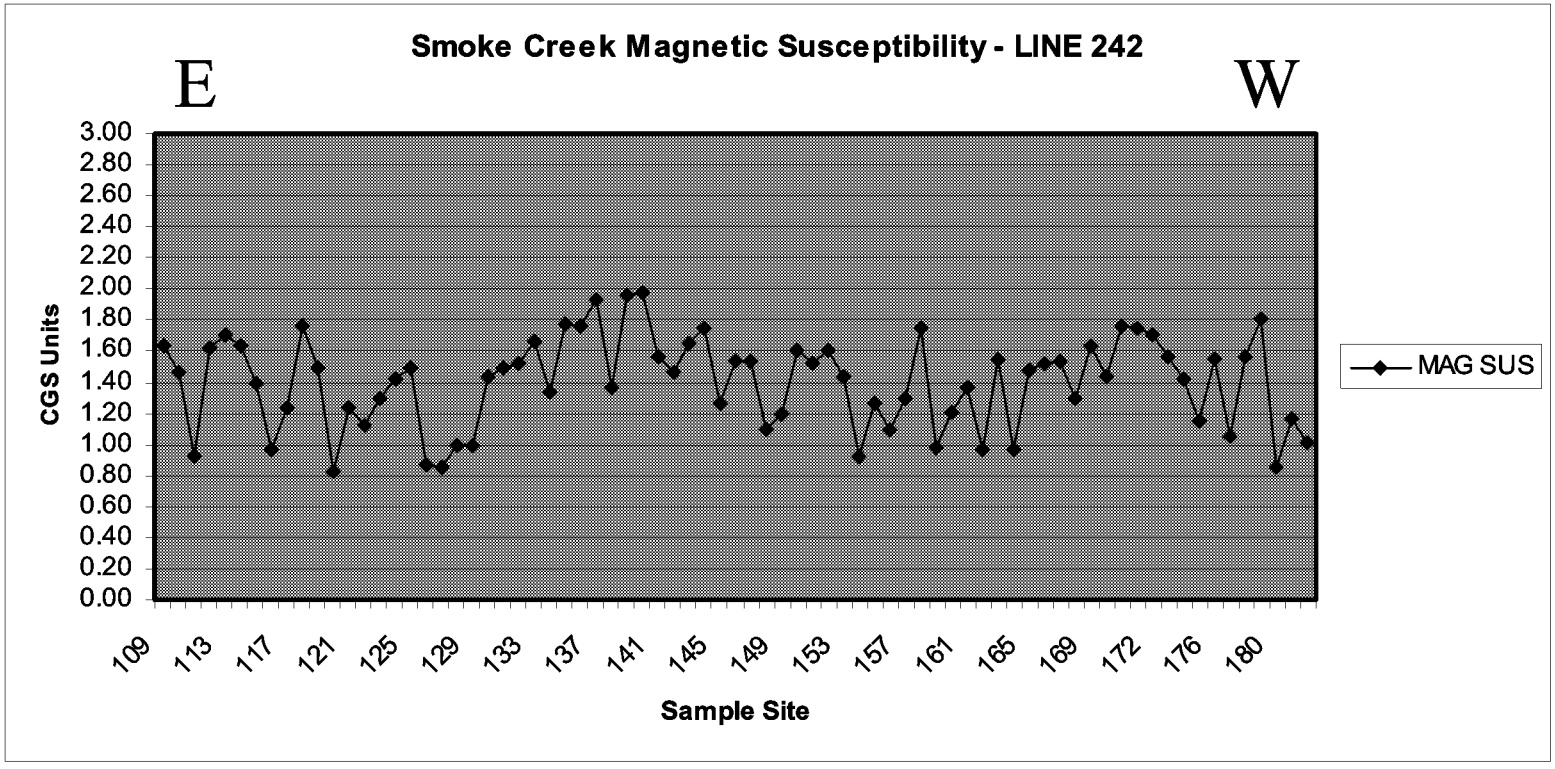


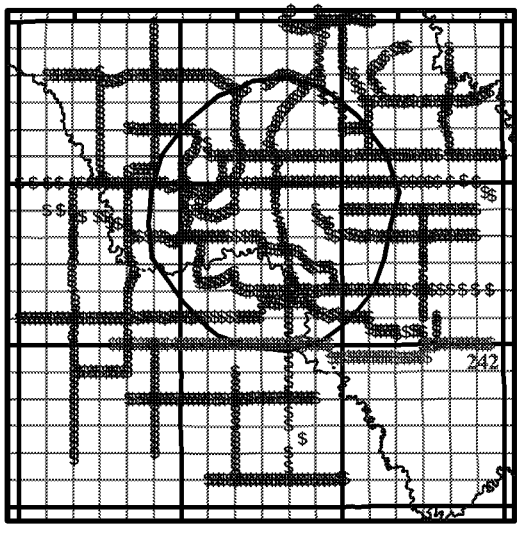
AREA 1 – LINE 240 MAG



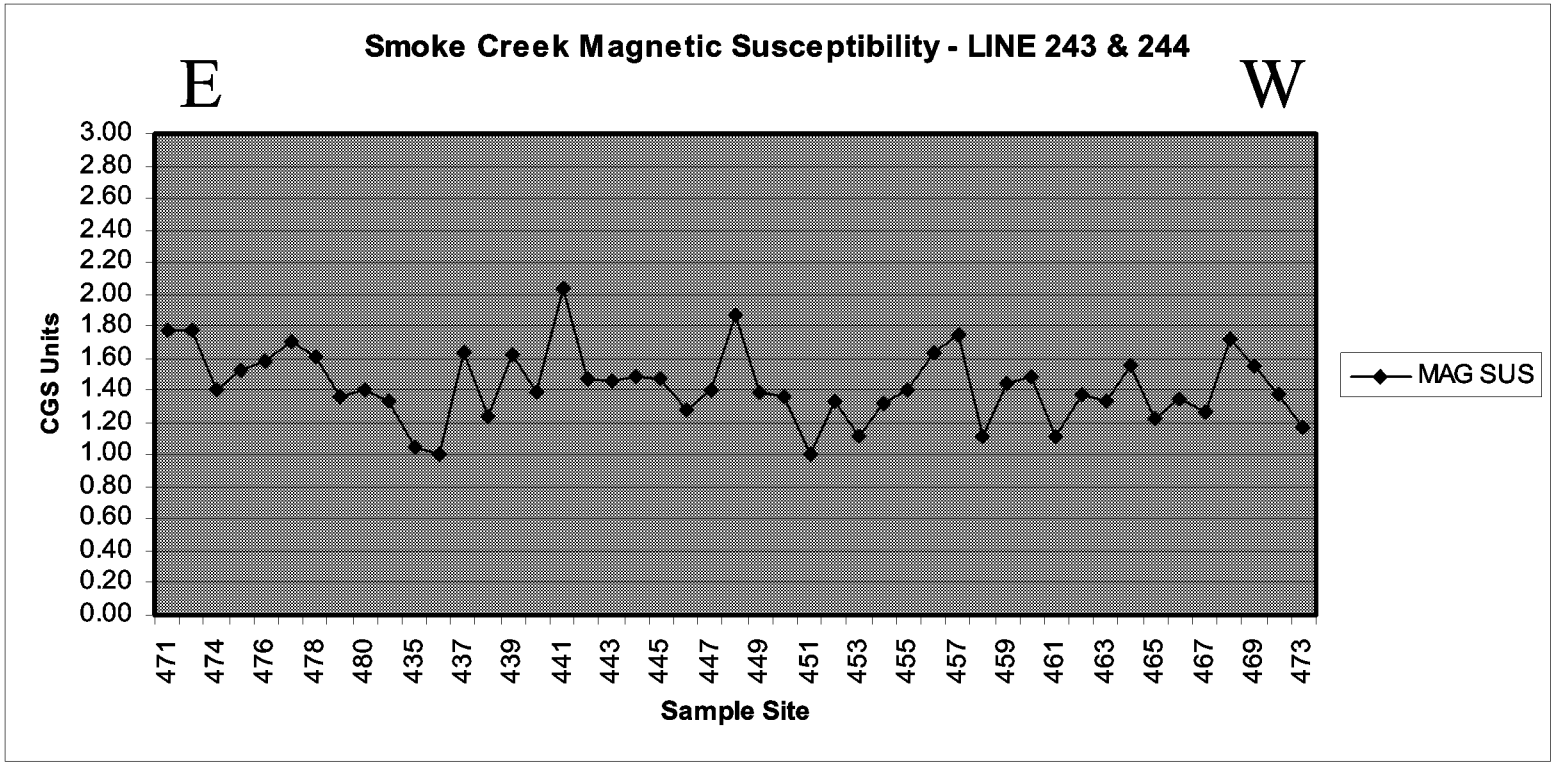


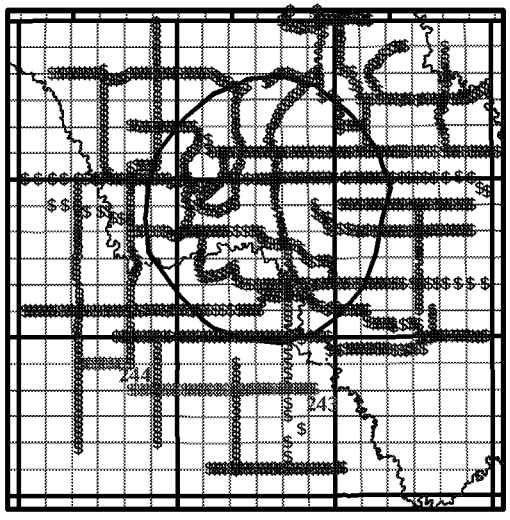
AREA 1 – LINE 241 MS



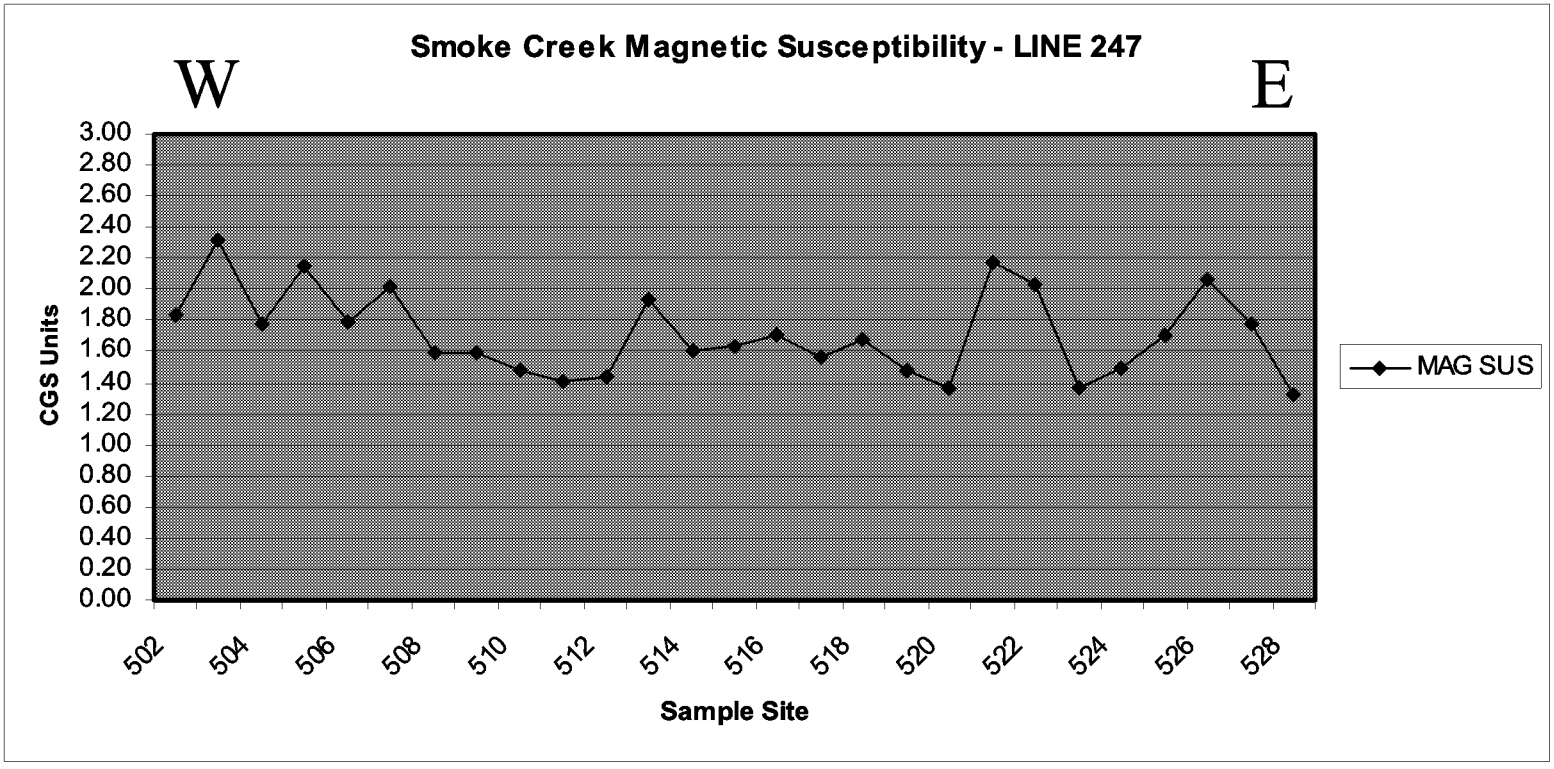


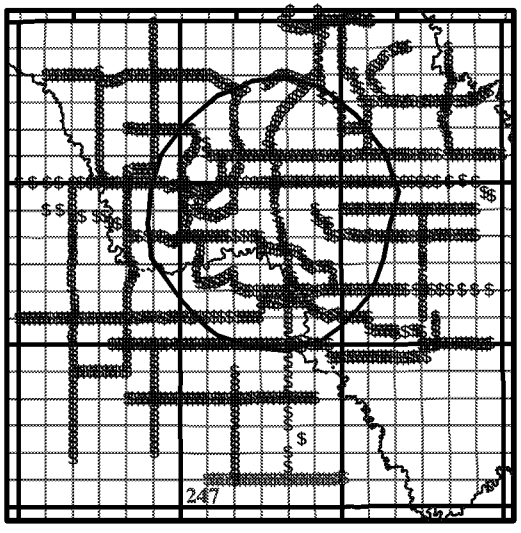
AREA 1 – LINE 242 MS





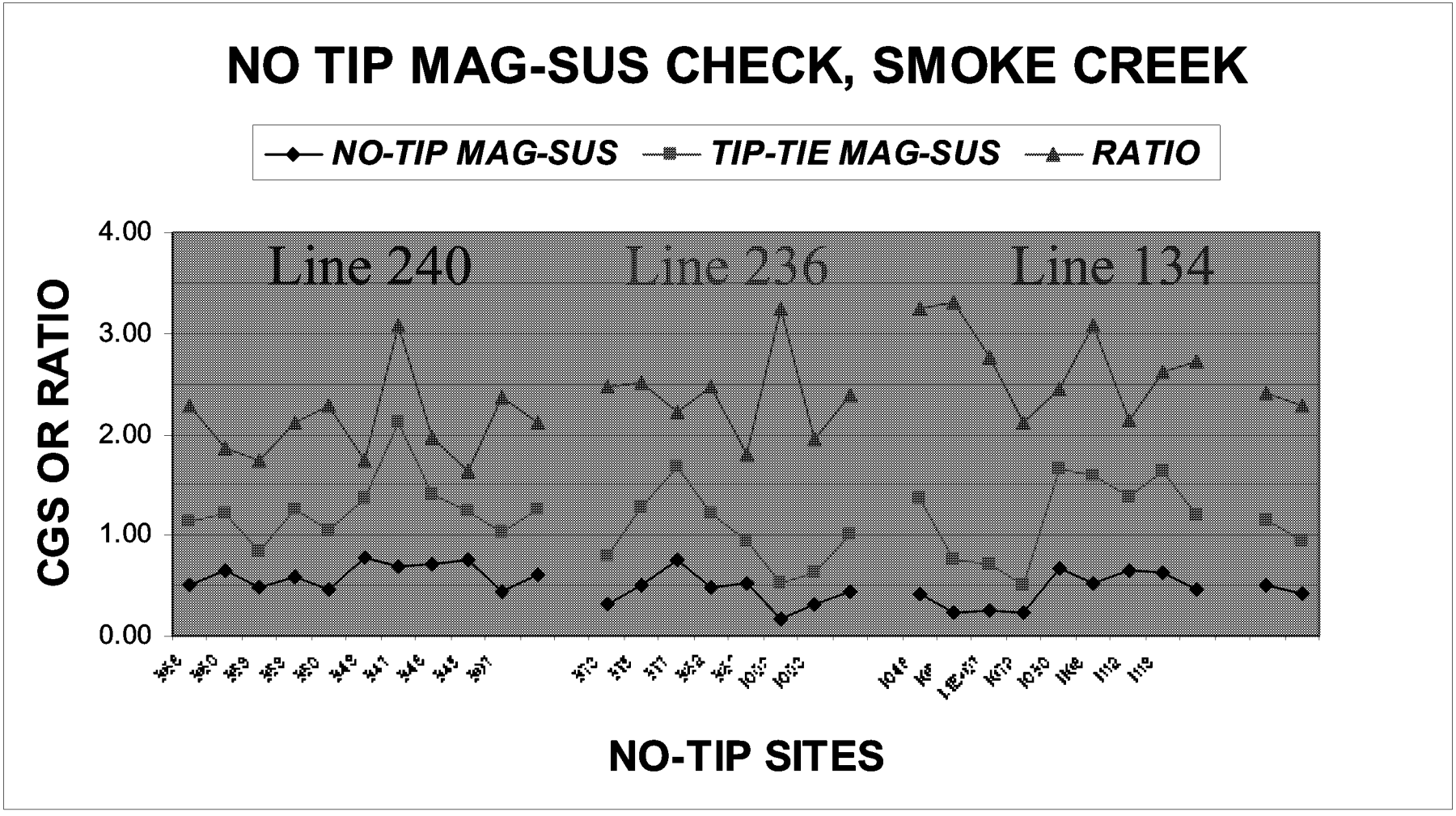
AREA 1– LINE 243 & 244 MS



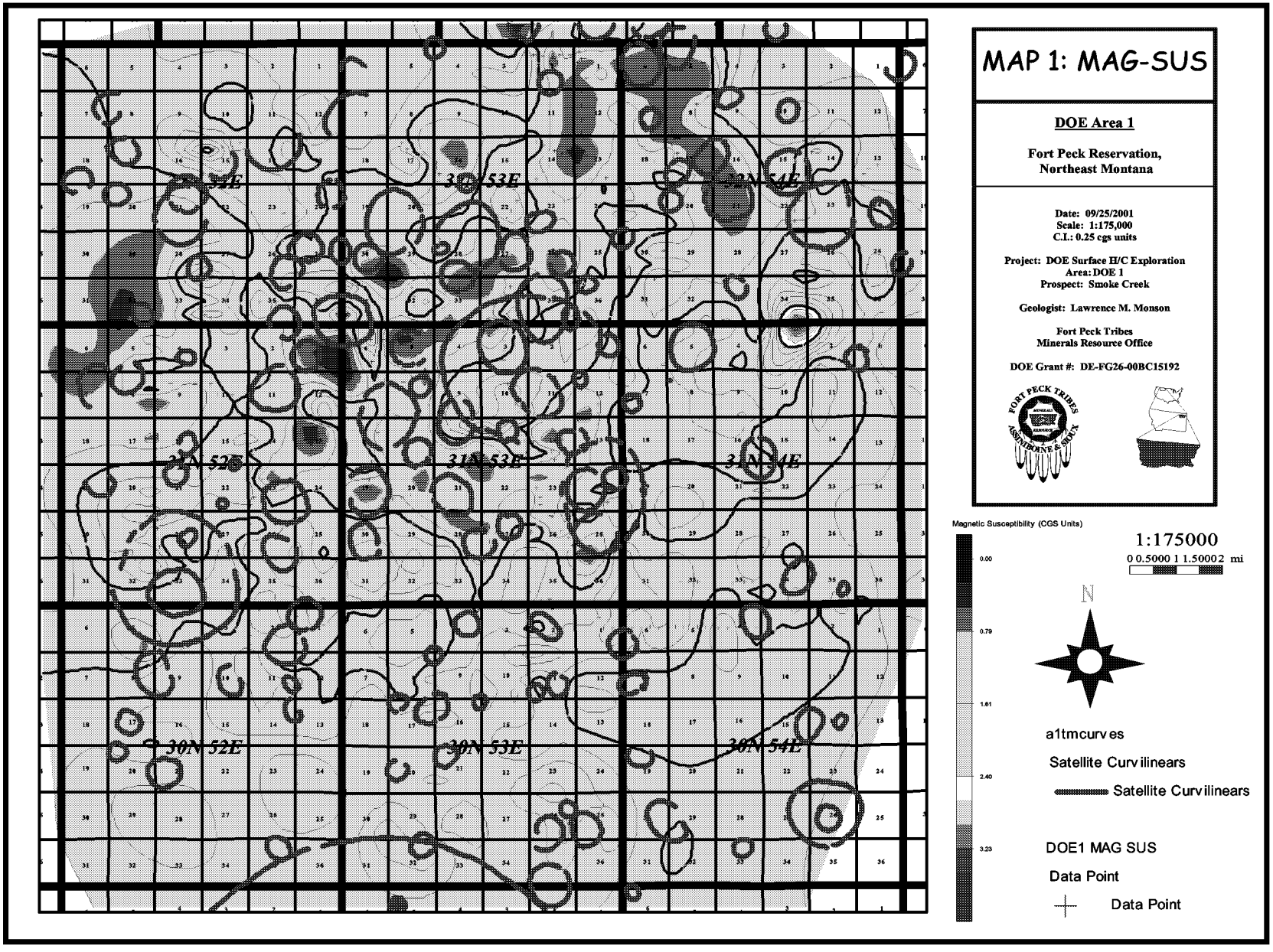


AREA 1 – LINE 247 MS

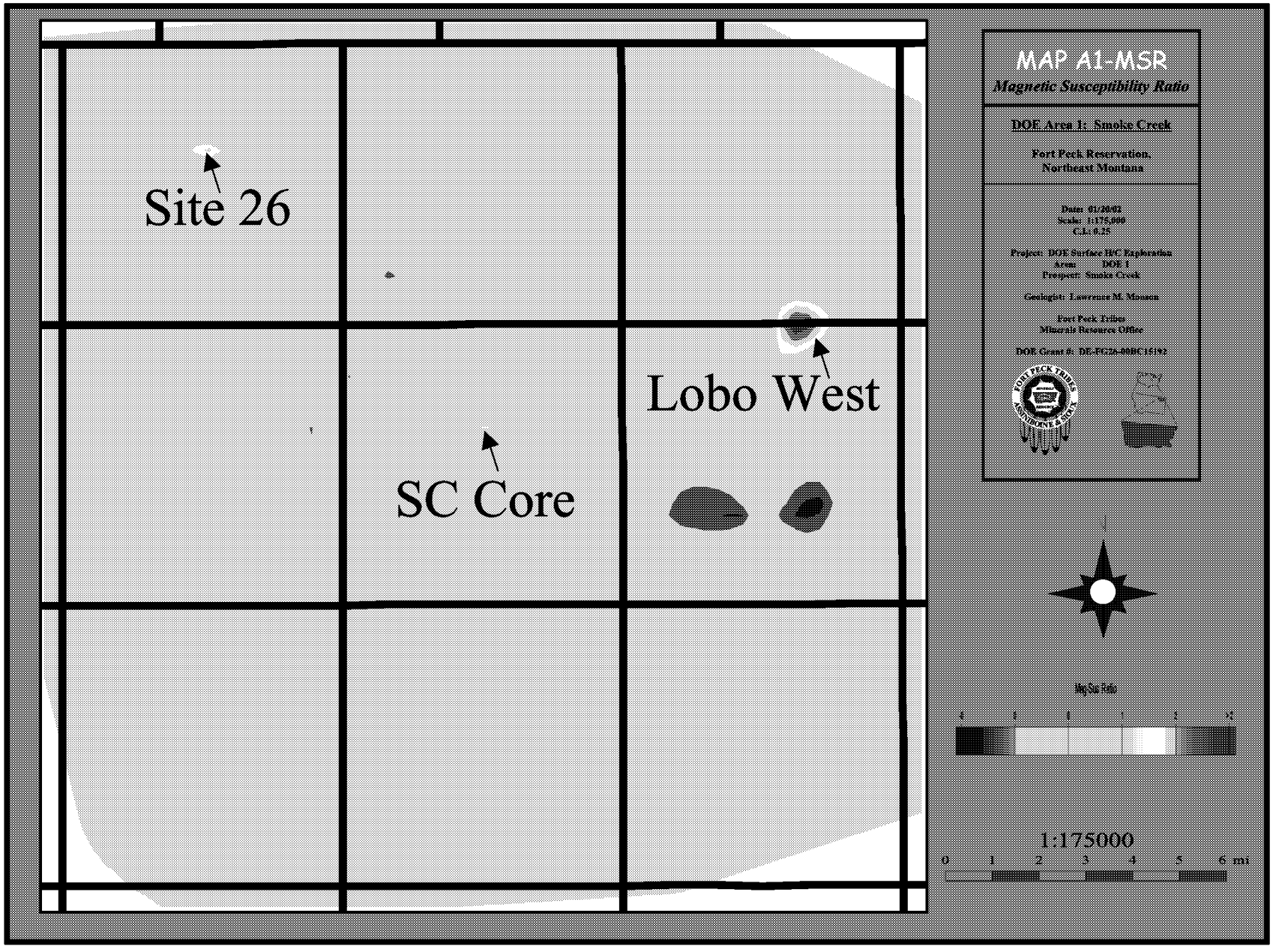
MAG-SUS TIP CORRECTION



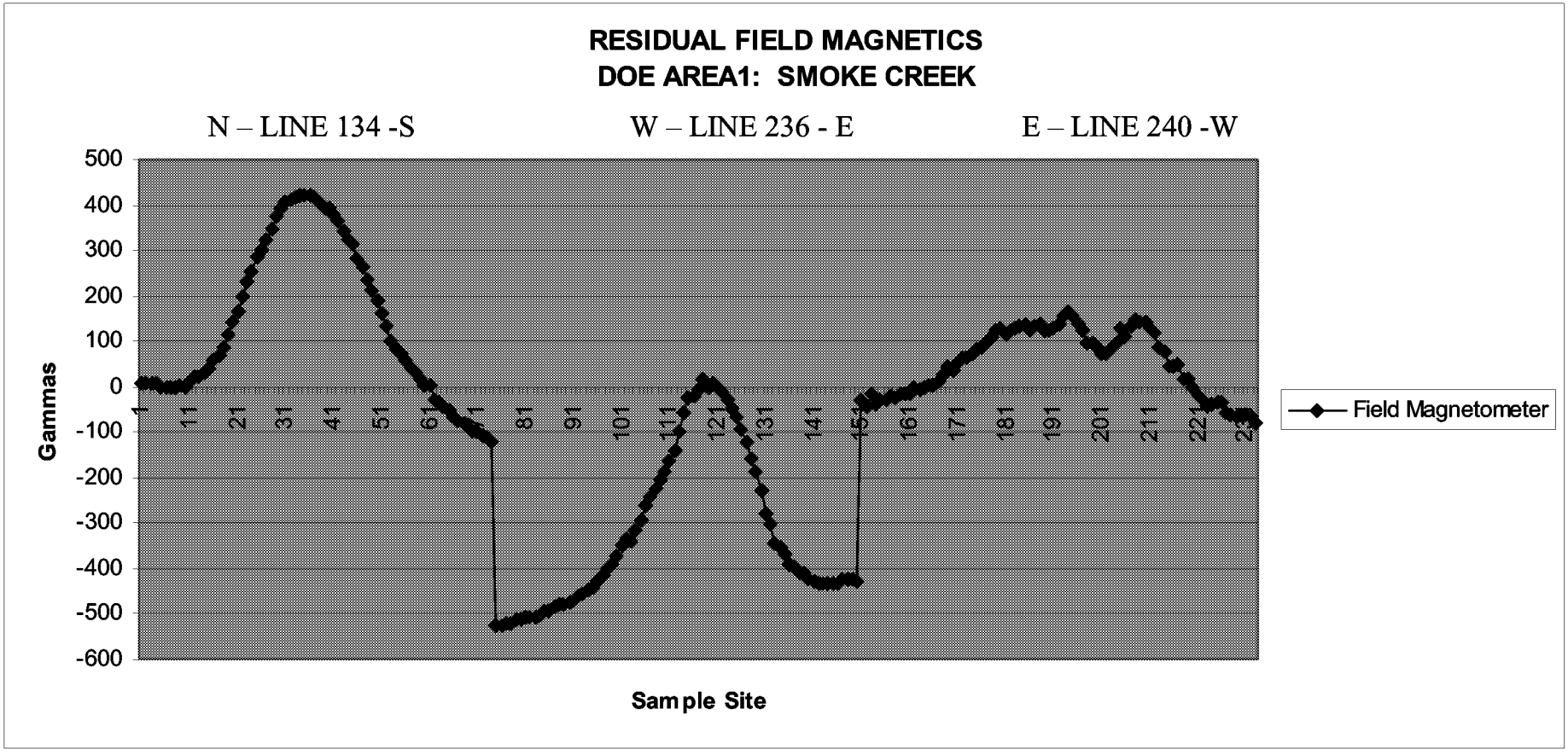
Area 1 MagSus & Curvilinears



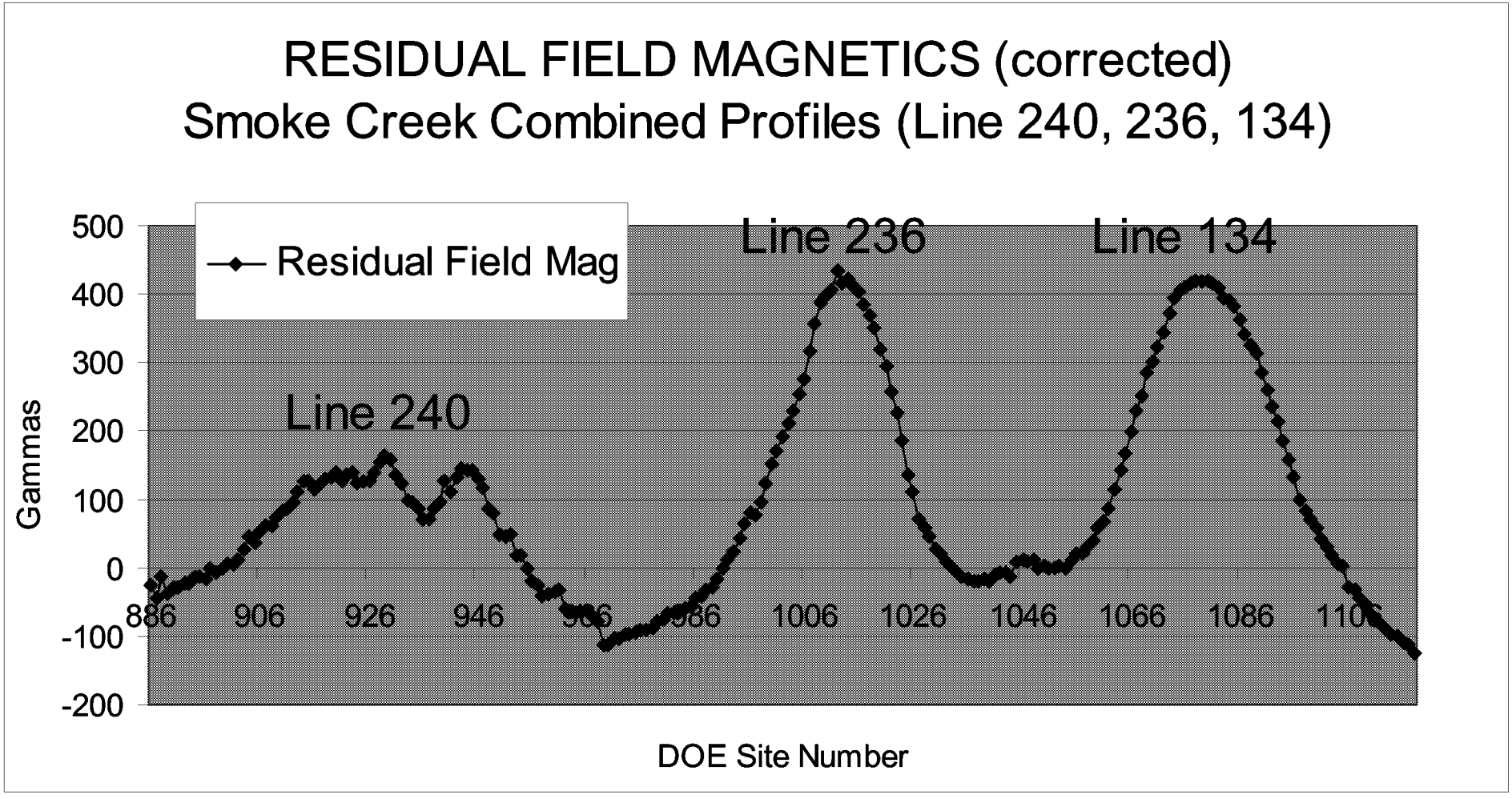
Area 1 MagSus Ratio



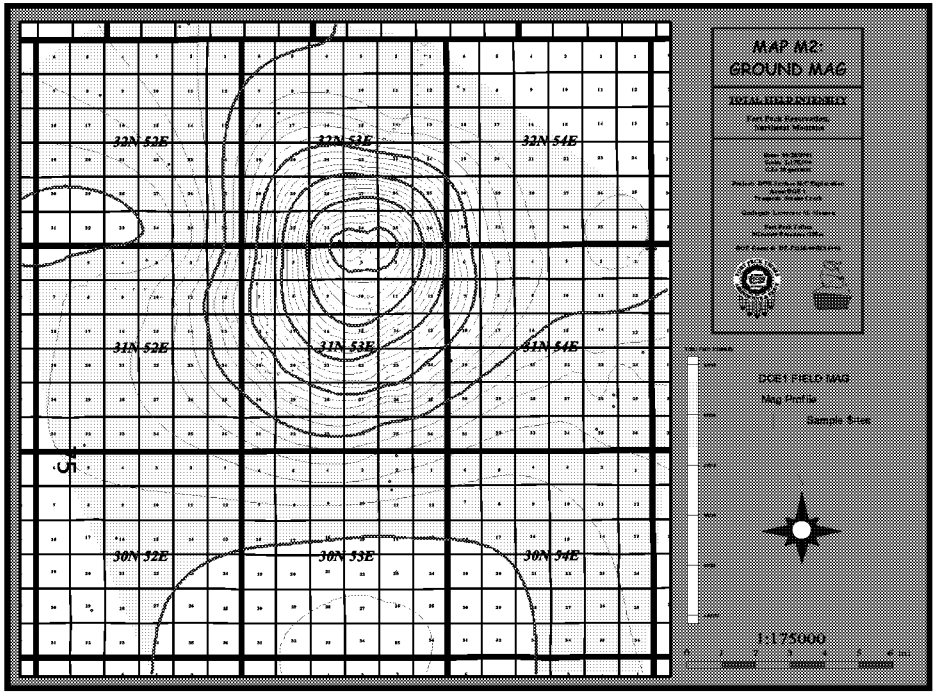
AREA 1 RESIDUAL FIELD MAGNETICS

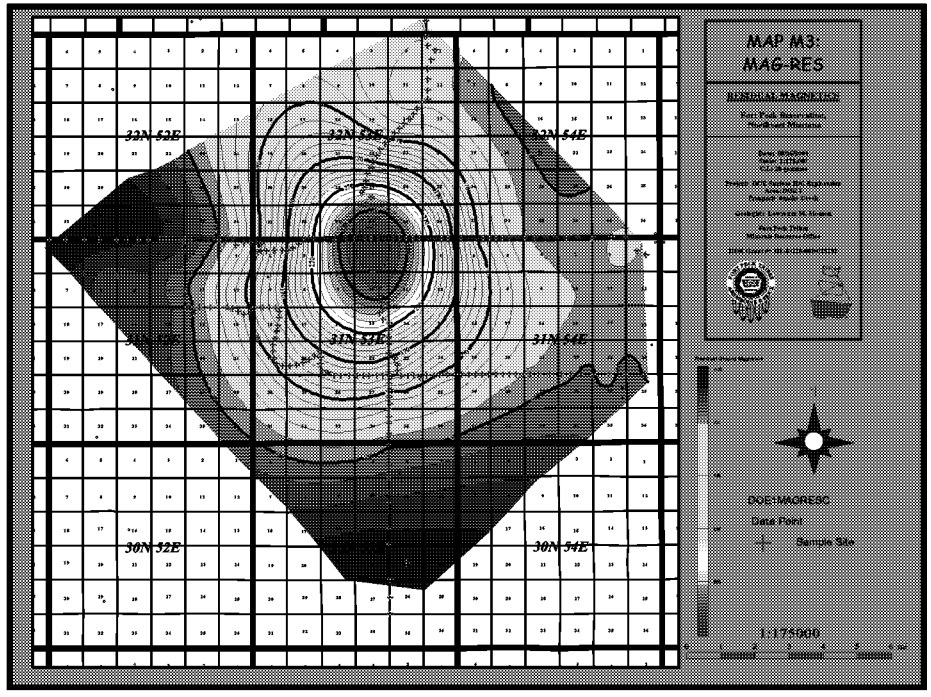


AREA 1 RES. FIELD MAG (CORRECTED)



SMOKE CREEK GROUND MAGNETICS





Total Field Intensity

Corrected Residual

TABLE 1C

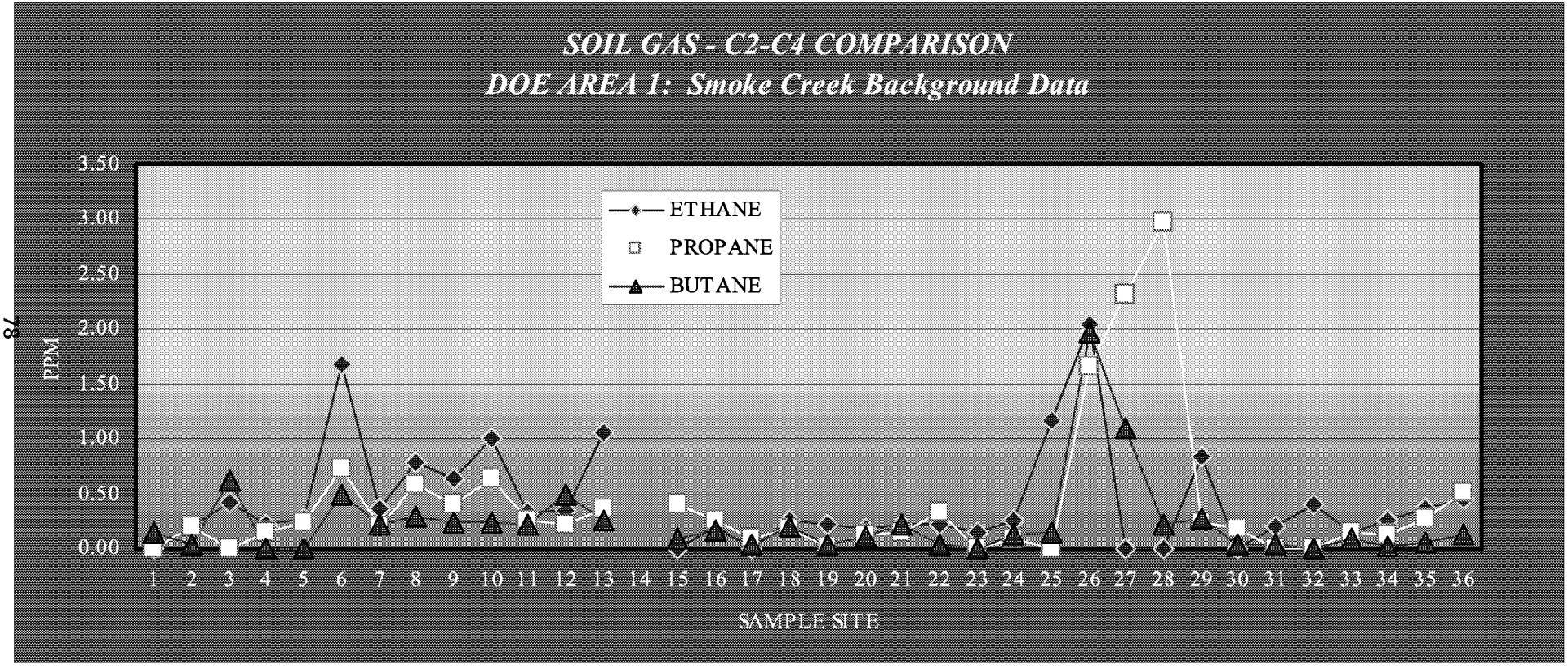
	TABLE 1C: DOE AREA 1 BACKGROUND SAMPLE COLLECTION DATA												
a135gps	ArcView GPS data collection table						utm-y	utm-x	gas probe/auger in.		gas p cc		dir./ mph
DOESITENO	VEGETATION	SLOPE	SOIL	MOISTURE	AIRTEMP	BAROMETER	LATITUDE	LONGITUDE	DEPTH		DRAW	WEATHER	WIND
sc-1	summerfallow	flat	loam	dry	64	28.1	5352907.7997	506744.85497916	3632		2.0		
sc-2	summerfallow	flat	loam	dry	63	28.1	5352138.2720	506735.31859151	3630		0.0		
sc-3	grass	flat	loam	dry	67	28.1	5351343.2645	506767.85866790	3636		2.0		
sc-4	stubble	flat	loam	dry	68	28.1	5351335.1752	507521.45637223	3636		2.0		
sc-5	summerfallow	flat	loam	dry	68	28.1	5351336.3162	511566.04361767	3636		2.0		
sc-6	summerfallow	flat	loam	damp	70	28.2	5352140.1703	511549.43277375	3636		3.0		
sc-7	summerfallow	flat	loam	dry	70	28.2	5352941.2860	511556.59650637	3636		1.0		
sc-8	summerfallow	flat	loam	dry	69	28.2	5352930.6132	512344.03581485	3636		2.0		
sc-9	grass	flat	sand	dry	68	28.2	5352143.3002	517998.40015483	3636		20.0		
sc-10	bare	flat	sand	damp	68	28.2	5351340.8081	518005.80254769	3636		20.0		
sc-11	bare	flat	sand	dry	68	28.2	5350558.0480	518005.07210477	3636		20.0		
sc-12	summerfallow	gentle	silt	dry	71	28.2	5349755.7314	518404.00870788	3632		0.0		
sc-13	summerfallow	flat	loam	damp	74	28.2	5358635.2255	521168.22601346	3036		1.0	sunny	N 3-5
sc-14	summerfallow	flat	clay	damp	74	28.2	5359404.1839	521168.07489654	3636		100.0	sunny	N 3-5
sc-15	summerfallow	flat	loam	dry	76	28.2	5360211.9938	521169.23720258	3436		0.0	sunny	N 3-5
sc-16	summerfallow	flat	loam	dry	70	28.2	5362625.8192	526781.63037312	3236		2.0	sunny	NE 10-12
sc-17	summerfallow	flat	silt	damp	73	28.2	5361820.3553	526775.33367636	3236		1.2	sunny	NE 10-12
sc-18	summerfallow	gentle	silt	dry	72	28.3	5361059.2299	526794.24630806	3636		0.0	sunny	NE 10-12
sc-19	summerfallow	gentle	loam	dry	74	28.2	5373706.4586	524635.18698626	3636		1.1	sunny	NE 4-5
sc-20	summerfallow	gentle	loam	dry	75	28.2	5373909.0722	525115.20851543	3636		0.0	sunny	NE 4-5
sc-21	grass	gentle	loam	dry	74	28.2	5373907.9092	525913.32621180	3036		2.0	sunny	NE 4-5
sc-22	summerfallow	gentle	loam	dry	76	28.2	5377113.0683	522682.29391709	3236		0.1	sunny	NE 0-2
sc-23	summerfallow	gentle	loam	dry	76	28.2	5377112.1621	521785.05340051	3636		1.2	sunny	NE 0-2
sc-24	grass	gentle	loam	dry	69	27.9	5378316.2619	516275.98164339	2434		2.0	sunny	NE 0-2
sc-25	stubble	flat	loam	damp	87	28.0	5375373.9047	505027.29024936	3636		1.2	sunny	1 n
sc-26	stubble	flat	gravel	damp	90	28.0	5375089.6165	504350.93197974	3636			sunny	calm
sc-27	summerfallow	flat	gravel	damp	90	28.0	5375133.9323	503621.95707966	3624		0.4	sunny	calm
sc-28	stubble	flat	loam	damp	90	28.5	5375440.0031	501055.19330509	3236		0.9	sunny	calm
sc-29	summerfallow	gentle	loam	damp	90	28.5	5375448.5707	500292.51109536	3636		0.6	sunny	calm
sc-30	grass	gentle	silt	damp	90	28.7	5366602.5075	500273.96976512	3636		0.0	sunny	w5
sc-31	grass	gentle	gravel	damp	90	28.7	5365884.1114	500289.09807487	2430		0.3	sunny	w5
sc-32	grass	gentle	silt	damp	90	28.0	5362572.1220	500286.20501788	2430		0.3	sunny	w5
sc-33	grass	gentle	loam	damp	90	28.0	5361783.9638	500275.04005840	3036		0.3	sunny	w8
sc-34	grass	gentle	loam	damp	88	28.1	5360000.4680	502557.88143664	3636		0.0	sunny	w12-15
sc-35	grass	flat	silt	damp	87	28.4	5353709.7625	498734.12644934	3636		0.0	sunny	w12-15
sc-36	grass	flat	silt	dry	89	28.4	5352961.7743	498700.22046157	3336		0.0	sunny	w8-10

TABLE 1D

TABLE 1D: DOE AREA 1 BACKGROUND SOIL GAS

a135soilgas						
DOESITENO	METHANE	ETHANE	PROPANE	n-BUTANE		
sc-1	6.840	0.000	0.000	0.154		
sc-2	6.065	0.198	0.206	0.045		
sc-3	6.583	0.414	0.000	0.612		
sc-4	5.537	0.218	0.140	0.000		
sc-5	5.307	0.273	0.241	0.000		
sc-6	12.735	1.676	0.725	0.493		
sc-7	6.672	0.368	0.199	0.225		
sc-8	8.354	0.775	0.592	0.292		
sc-9	8.121	0.633	0.393	0.242		
sc-10	6.616	0.995	0.637	0.234		
sc-11	5.411	0.323	0.253	0.213		
sc-12	5.565	0.347	0.218	0.496		
sc-13	6.114	1.063	0.360	0.262		
sc-14						
sc-15	7.555	0.000	0.393	0.086		
sc-16	6.051	0.193	0.264	0.156		
sc-17	5.071	0.000	0.089	0.031		
sc-18	5.330	0.253	0.187	0.204		
sc-19	5.694	0.224	0.024	0.038		
sc-20	5.393	0.179	0.133	0.105		
sc-21	6.150	0.226	0.145	0.216		
sc-22	5.993	0.226	0.324	0.028		
sc-23	5.616	0.148	0.000	0.000		
sc-24	7.375	0.249	0.098	0.127		
sc-25	2.434	1.169	0.000	0.146		
sc-26	12.874	2.040	1.667	1.968		
sc-27	14.297	0.000	2.311	1.095		
sc-28	11.370	0.000	2.967	0.211		
sc-29	8.823	0.839	0.229	0.269		
sc-30	7.984	0.000	0.174	0.033		
sc-31	6.726	0.207	0.000	0.035		
sc-32	6.203	0.405	0.000	0.000		
sc-33	6.161	0.140	0.140	0.096		
sc-34	5.655	0.258	0.130	0.019		
sc-35	4.612	0.373	0.267	0.053		
sc-36	8.062	0.450	0.515	0.129		
MIN	2.434	0.000	0.000	0.000		
MAX	14.297	2.040	2.967	1.968		
AVG	7.010	0.425	0.401	0.238		
STDEV	2.459	0.471	0.642	0.371		
ANOMALY(1.5)	10.515	0.637	0.601	0.356		

AREA 1 SOIL GAS



AREA 1 SG DV

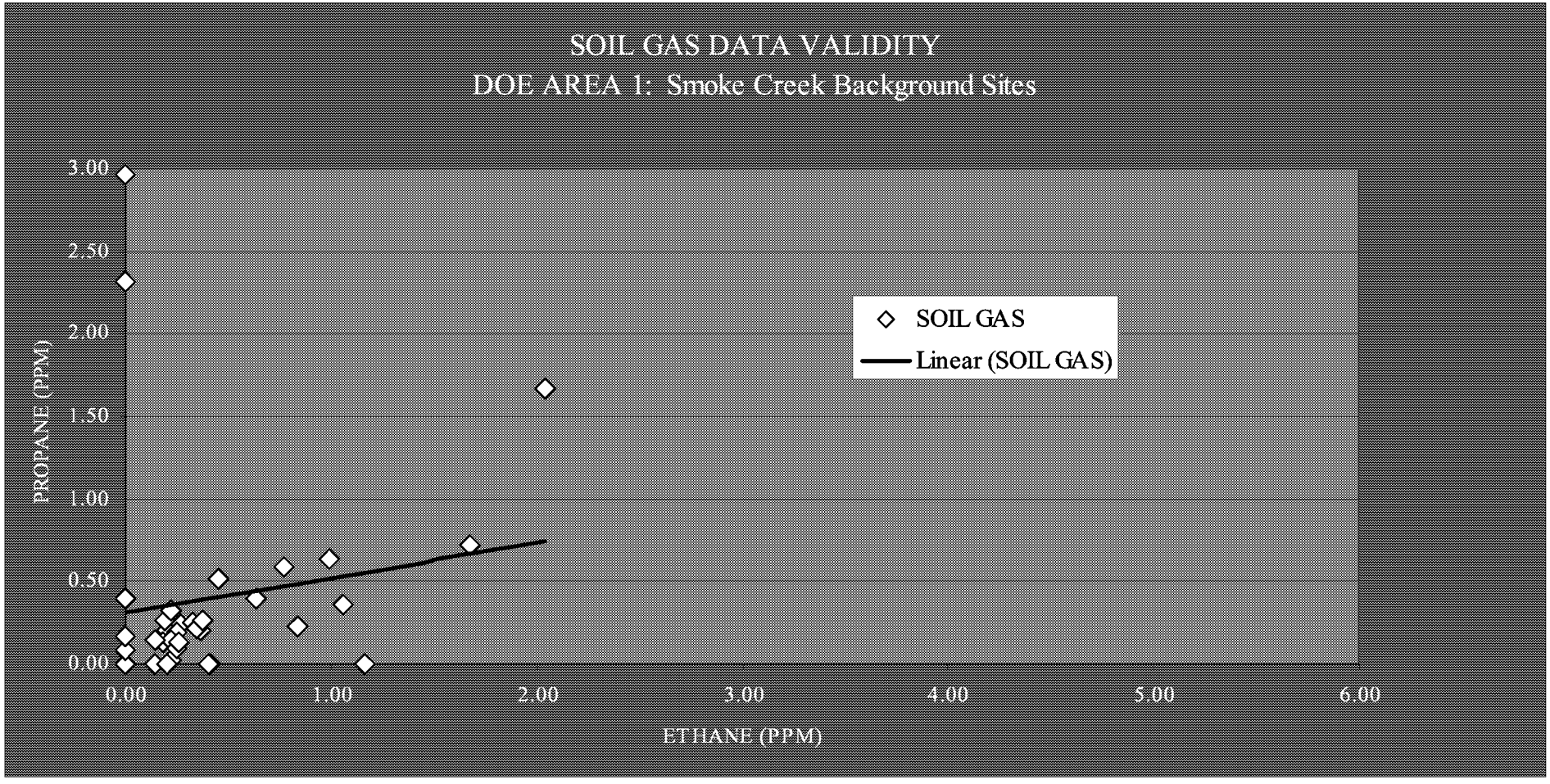
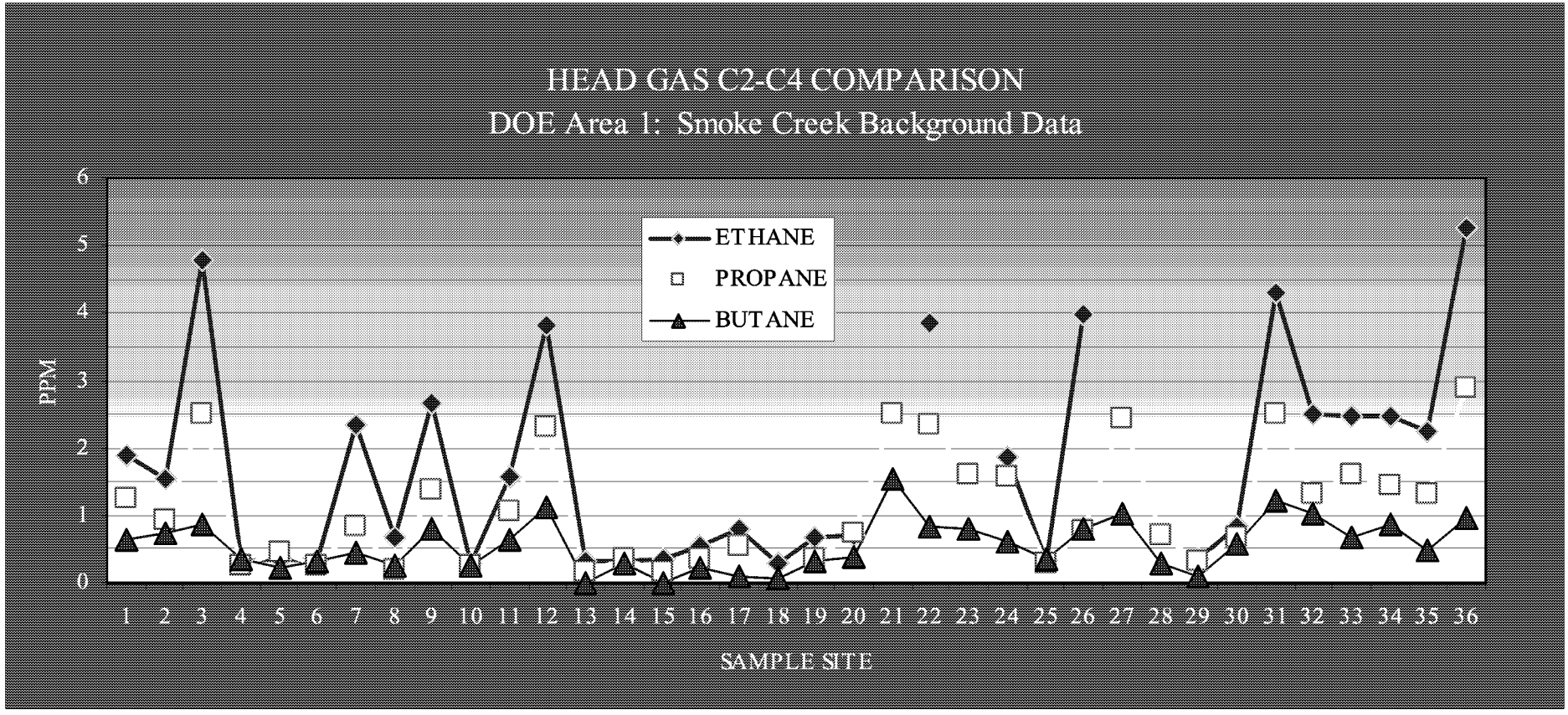

SOIL GAS DATA VALIDITY
DOE AREA 1: Smoke Creek Background Sites
PROPANE (PPM)
3.00
2.50
2.00
1.50
1.00
0.50
0.00
0.00
1.00
2.00
3.00
4.00
5.00
6.00
ETHANE (PPM)
SOIL GAS
Linear (SOIL GAS)

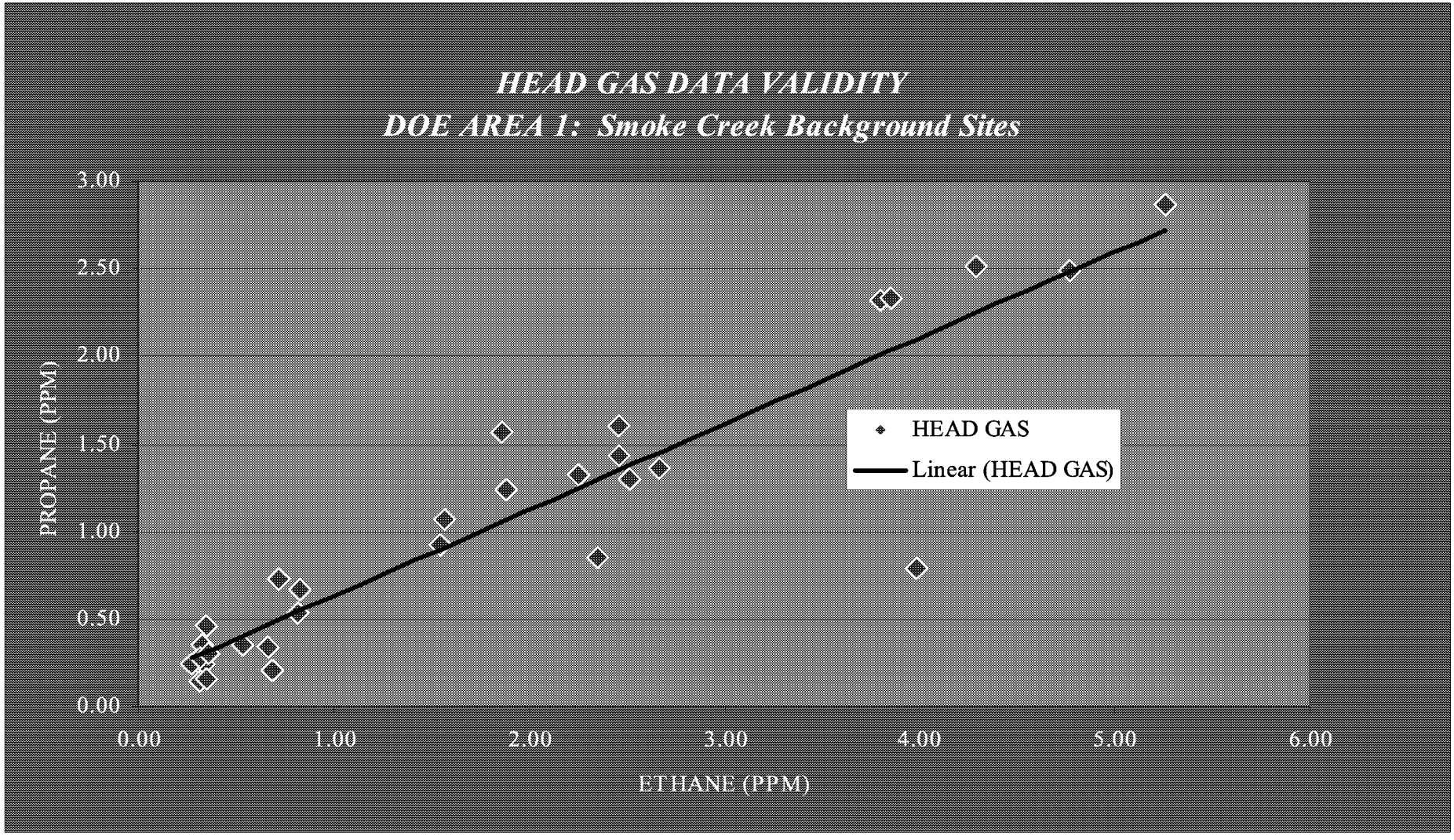
TABLE 1E

a1grdc	TABLE 1E: DOE AREA 1 BACKGROUND HEAD GAS, EH,PH, AND K											
	ppm										EH		K
DOE Site	METHANE	ETHANE	ETHENE	PROPANE	PROPENE	IBUTANE	BUTANE	IPENTANE	PENTANE		mvolts	PH	umhos
SC 1	15.203	1.884	1.721	1.238	2.294	0.408	0.649	0.226	0.355		91.0	7.11	807
SC 2	2899.200	1.549	1.223	0.921	0.368	0.132	0.745	0.376	0.899		-122.8	6.70	829
SC 3	316.920	4.766	2.732	2.488	0.022	0.371	0.857	0.228	0.529		-96.8	6.57	971
SC 4	9.929	0.319	1.311	0.241	0.014	0.187	0.363	0.153	0.066		-50.6	6.54	760
SC 5	6.561	0.346	1.698	0.463	0.854	0.118	0.231	0.212	0.072		25.1	6.84	572
SC 6	3.883	0.334	0.579	0.242	0.010	0.132	0.311	0.218	0.048		44.5	7.04	1283
SC 7	555.340	2.347	0.373	0.849	1.200	0.190	0.460	0.100	0.290		-106.1	6.72	1121
SC 8	19.275	0.683	2.579	0.206	0.022	0.184	0.258	0.021			18.7	6.14	1153
SC 9	58.413	2.672	1.423	1.365	0.013	0.395	0.794	0.418	0.558		-105.1	6.75	1065
SC 10	3.066	0.273	0.470	0.243	0.025	0.143	0.270	0.049	0.140		9.6	6.99	634
SC 11	31.441	1.570	2.043	1.072	1.679	0.227	0.643		0.441		-104.8	6.71	667
SC 12	64.698	3.804	1.873	2.325	3.356	0.383	1.118	0.419	0.247		-102.7	6.82	805
SC 13	8.718	0.316	0.250	0.145	0.010	0.189	0.014	0.155	0.076		-7.8	7.12	684
SC 14	6.985	0.322	0.482	0.348	0.679	0.073	0.289	0.064	0.132		-9.9	7.11	966
SC 15	6.982	0.348	0.142	0.162	0.025	0.036	0.014	0.064	0.077		18.7	7.31	1741
SC 16	7.748	0.535	0.265	0.348	0.576	0.097	0.215	0.114	0.018		0.4	7.31	830
SC 17	13.424	0.814	0.688	0.532	0.021	0.178	0.084	0.300	0.172		112.5	6.92	806
SC 18	7.660	0.278	0.226		0.196	0.129	0.058	0.098	0.027		139.9	7.33	728
SC 19	11.497	0.666	0.801	0.338	0.920	0.157	0.317	0.249	0.102		52.2	6.97	877
SC 20	153.790	0.719	1.444	0.733	0.967	0.218	0.376	0.198	0.241		-117.1	6.79	872
SC 21	5065.800		7.798	2.499	3.796		1.542	0.526	1.667		-106.7	6.46	1660
SC 22	68.867	3.850	9.189	2.327	4.150	0.293	0.831	0.309	0.367		-149.8	6.97	878
SC 23	4195.900		4.303	1.605	2.593		0.797	0.153	0.325		-138.2	6.68	1238
SC 24	24.400	1.857	3.688	1.562	2.809	0.125	0.600	0.084	0.143		-71.1	6.71	979
SC 25	3.643	0.314	0.167	0.275	0.694	0.219	0.348	0.133	0.028		-70.8	7.53	690
SC 26	32.899	3.983	3.784	0.784	2.977	0.365	0.791	0.383	0.745		-66.9	6.15	586
SC 27	4879.100		5.110	2.454	3.481		1.037	0.513	0.487		-150.0	6.85	1181
SC 28	12.830		1.757	0.714	1.532	0.077	0.299	0.176	0.324		-3.8	6.82	816
SC 29	4.928	0.355	0.133	0.305	0.568	0.174	0.103	0.058	0.045		11.9	7.41	586
SC 30	8.087	0.832	1.297	0.669	1.581	0.083	0.591	0.015	0.155		47.0	7.29	880
SC 31	28.690	4.291	5.189	2.510	4.831	0.234	1.216	0.096	0.550		72.0	7.16	796
SC 32	14.740	2.516	3.229	1.301	3.621	0.068	1.042	0.062	0.181		71.8	7.21	763
SC 33	17.244	2.464	2.821	1.602	2.416	0.074	0.658	0.102	0.445		-26.4	7.33	782
SC 34	15.971	2.456	1.690	1.428	2.352	0.004	0.870	0.027	0.227		9.3	7.30	1278
SC 35	17.032	2.259	3.187	1.318	1.520	0.009	0.479		0.119		-50.1	7.32	804
SC 36	29.775	5.257	5.489	2.872	5.305	0.243	0.963	0.258	0.599		-12.8	7.69	818
MIN	3.066	0.273	0.133	0.145	0.010	0.004	0.014	0.015	0.018		-150.0	6.14	572
MAX	5065.800	5.257	9.189	2.872	5.305	0.408	1.542	0.526	1.667		139.9	7.69	1741
AVG	517.240	1.718	2.254	1.100	1.597	0.179	0.562	0.193	0.311		-26.3	6.96	914
STDEV	1376.325	1.520	2.173	0.841	1.546	0.111	0.374	0.141	0.323		77.9	0.36	272
ANOMALY(1.5)	775.860	2.577	3.381	1.649	2.395	0.269	0.843	0.289	0.467		-17.5	7.32	1371

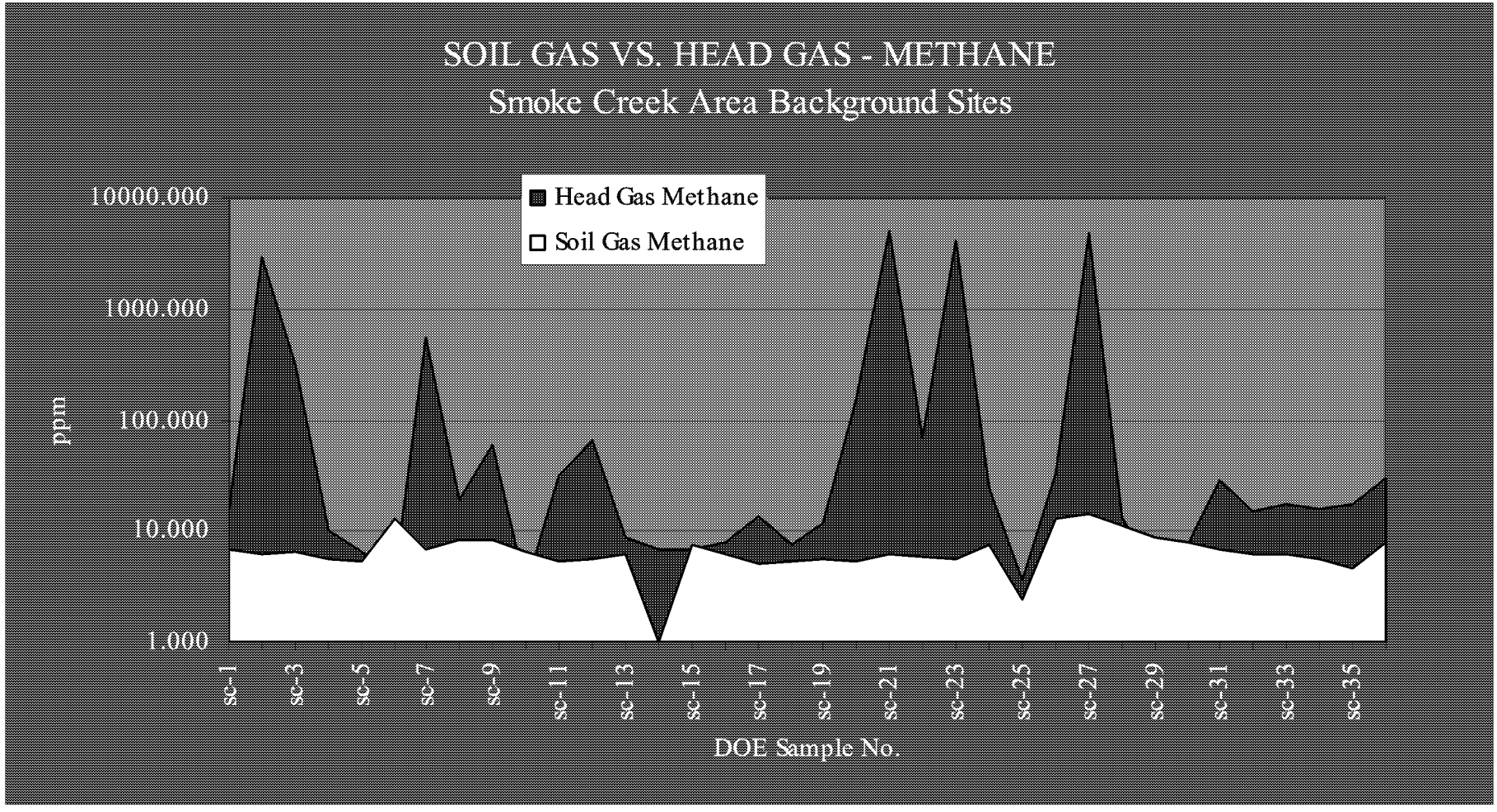
AREA 1 HEAD GAS



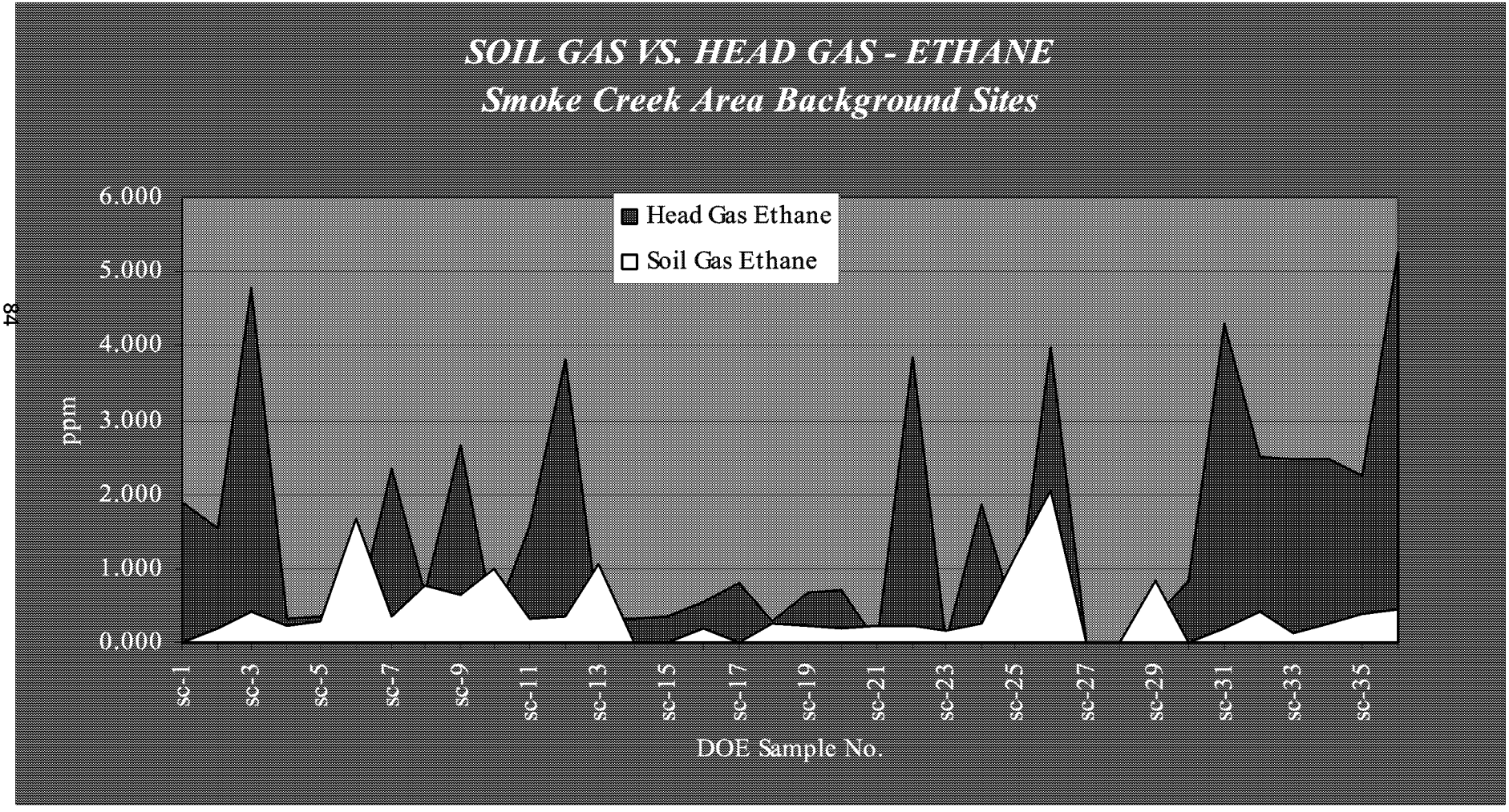
AREA 1 HG DV


HEAD GAS DATA VALIDITY
DOE AREA 1: Smoke Creek Background Sites
PROPANE (PPM)
3.00
2.50
2.00
1.50
1.00
0.50
0.00
0.00
1.00
2.00
3.00
4.00
5.00
6.00
ETHANE (PPM)
HEAD GAS
Linear (HEAD GAS)

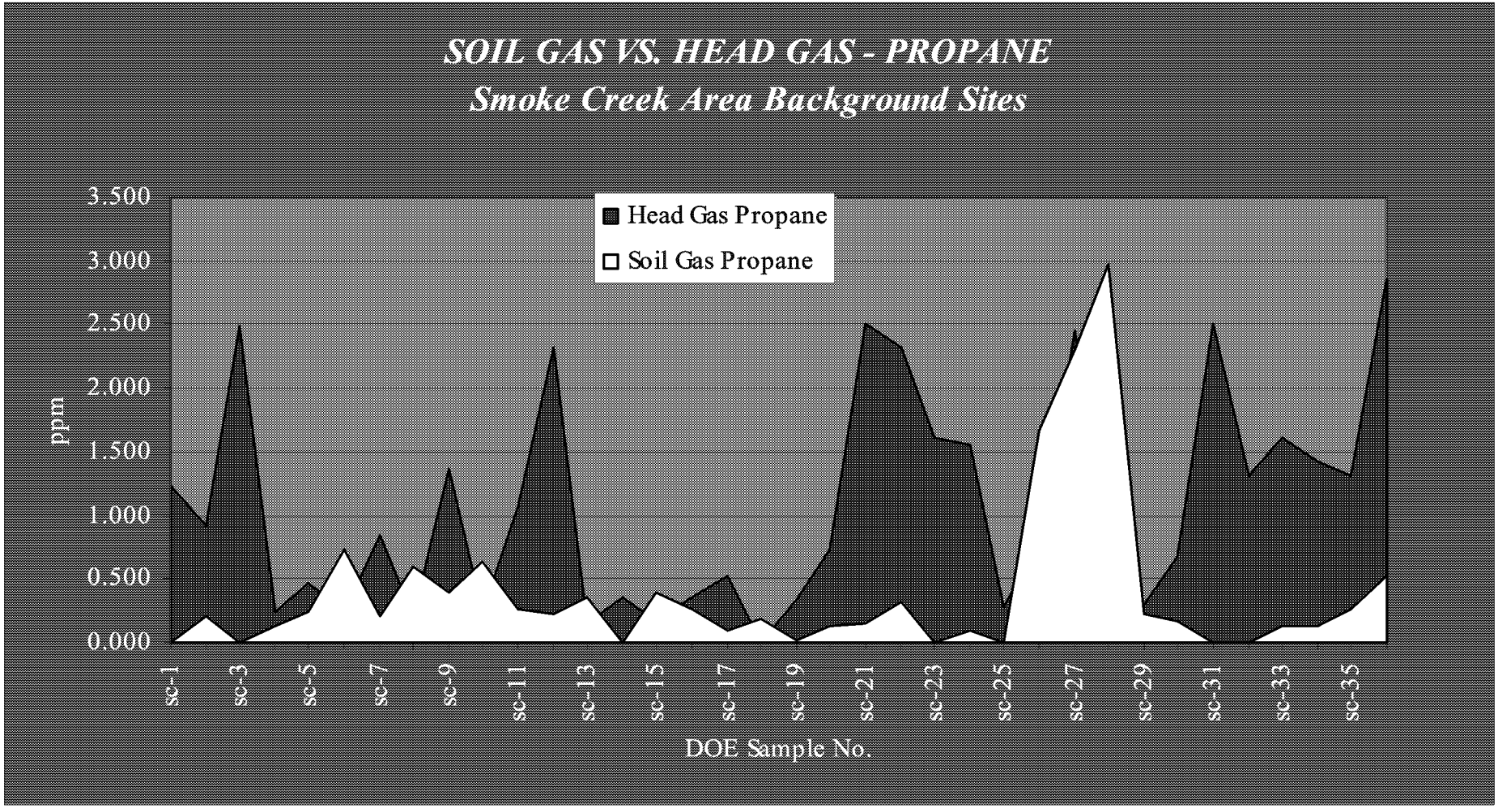
AREA 1 METHANE



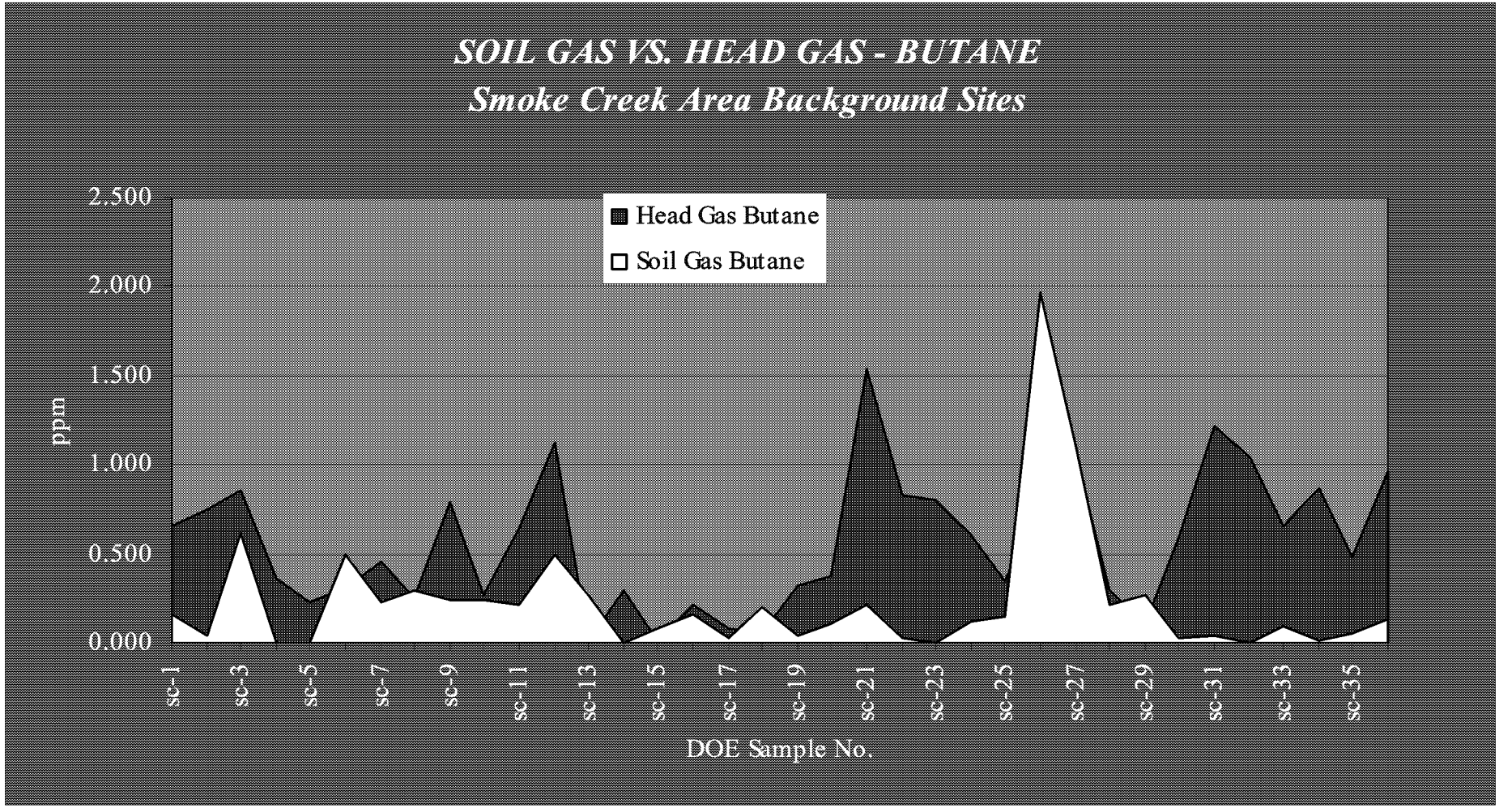
AREA 1 ETHANE



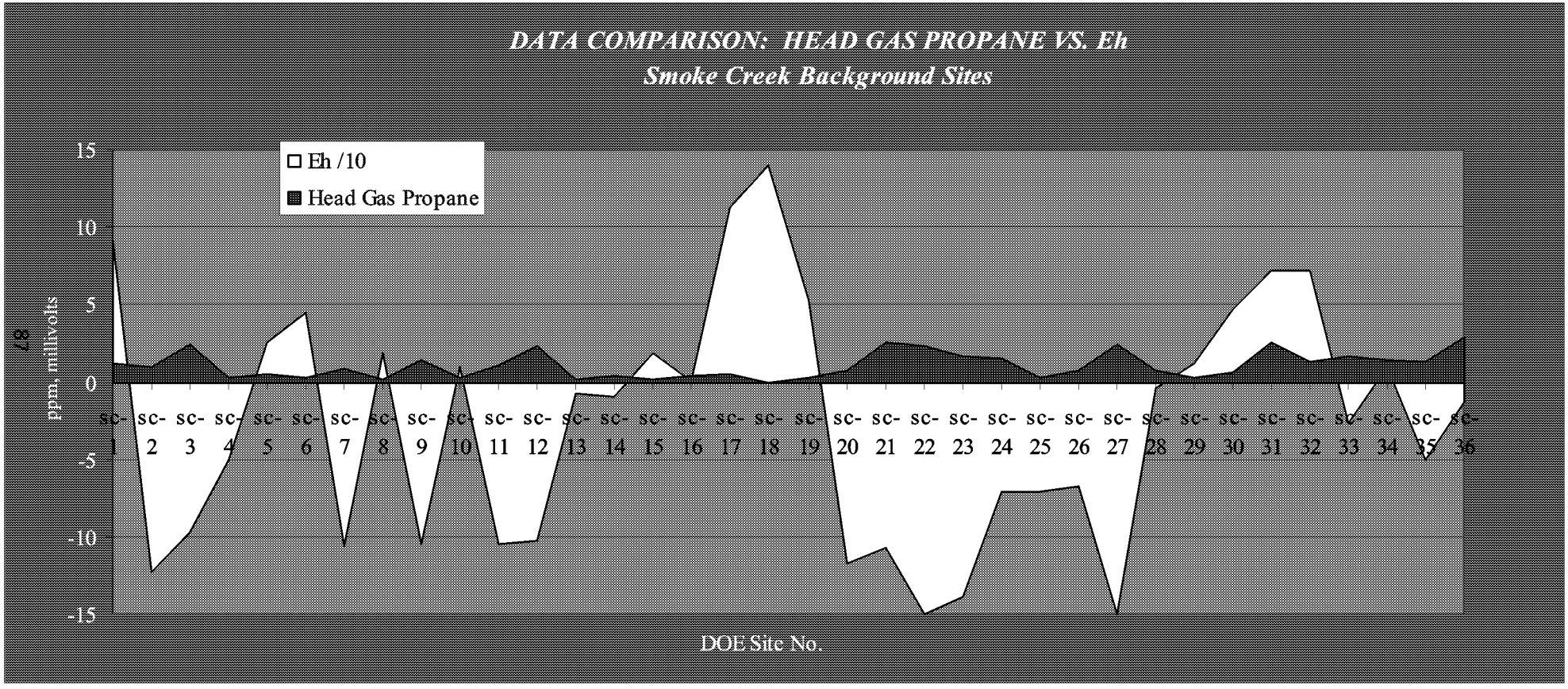
AREA 1 PROPANE



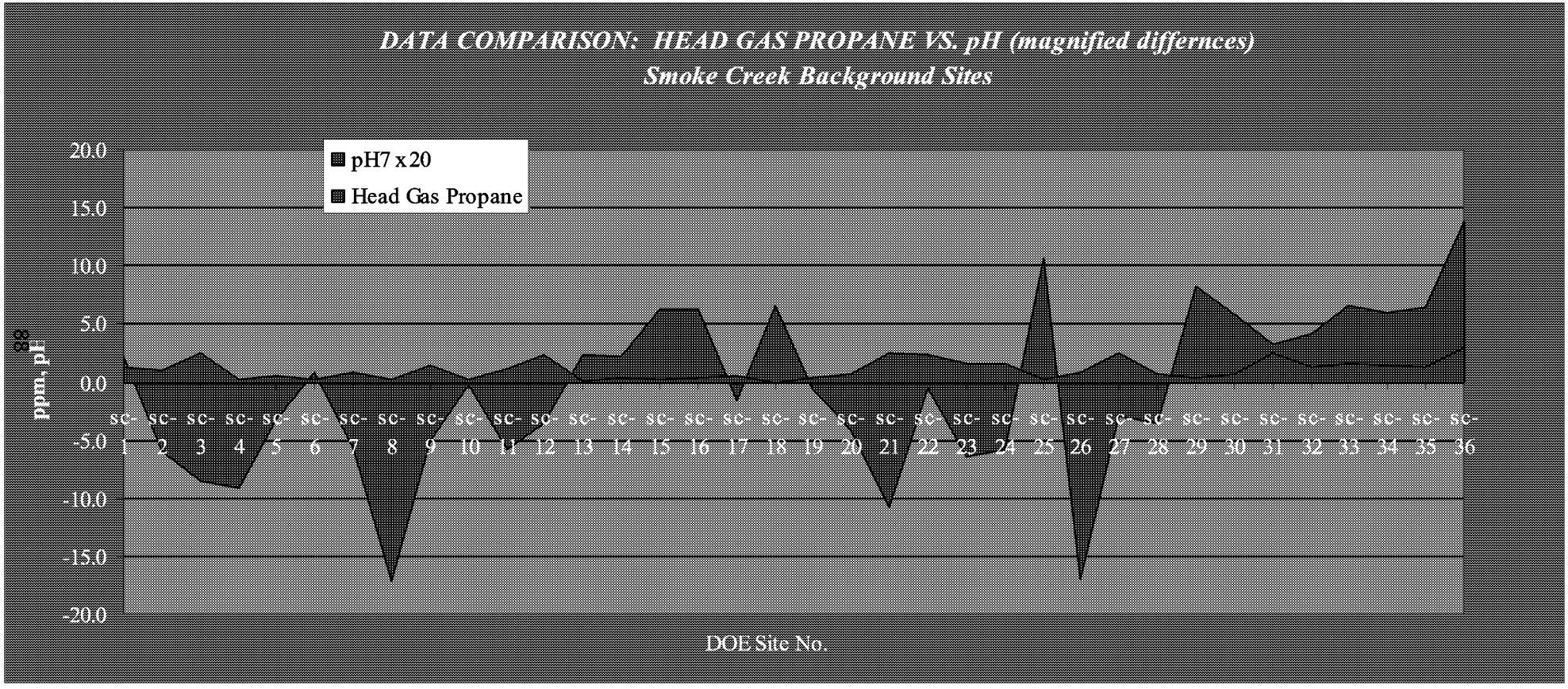
AREA 1 BUTANE



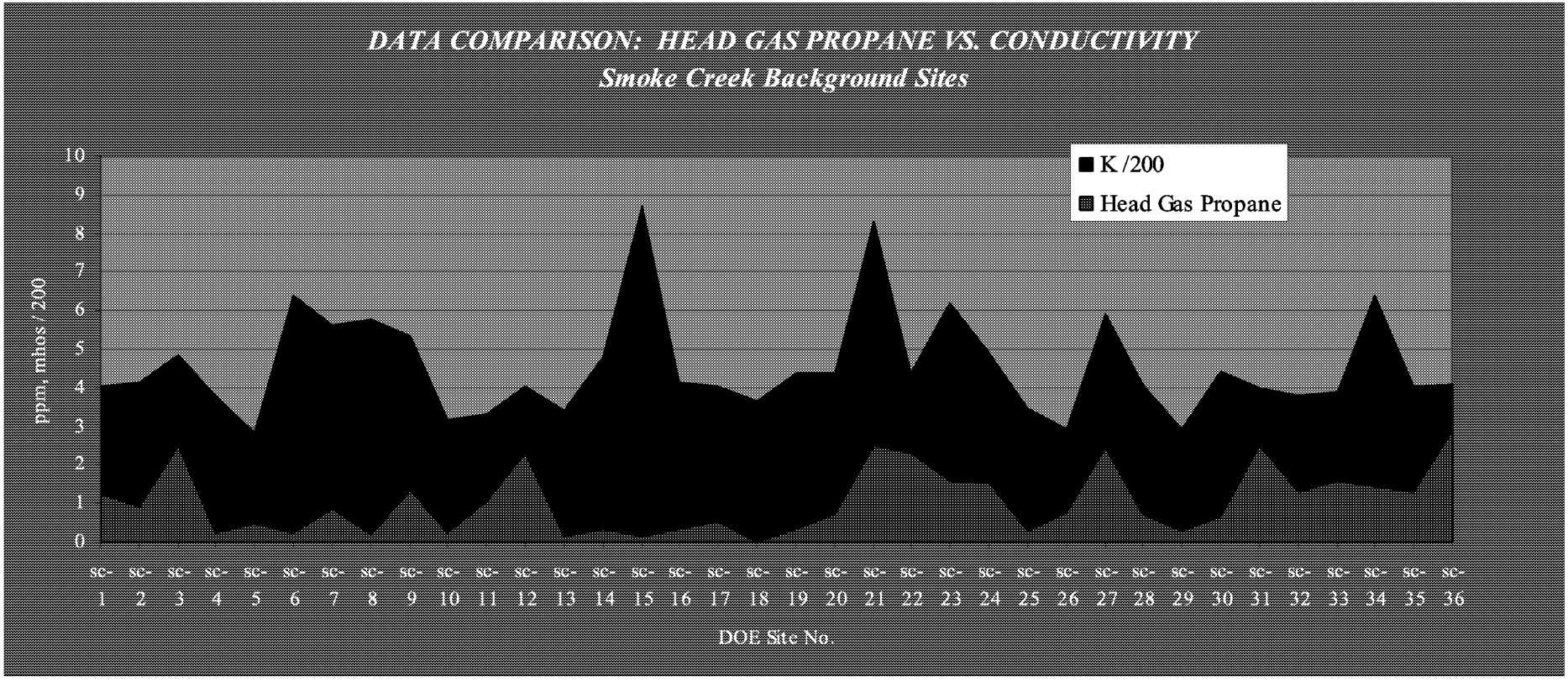
AREA 1 HG VS. Eh



AREA 1 HG VS. pH

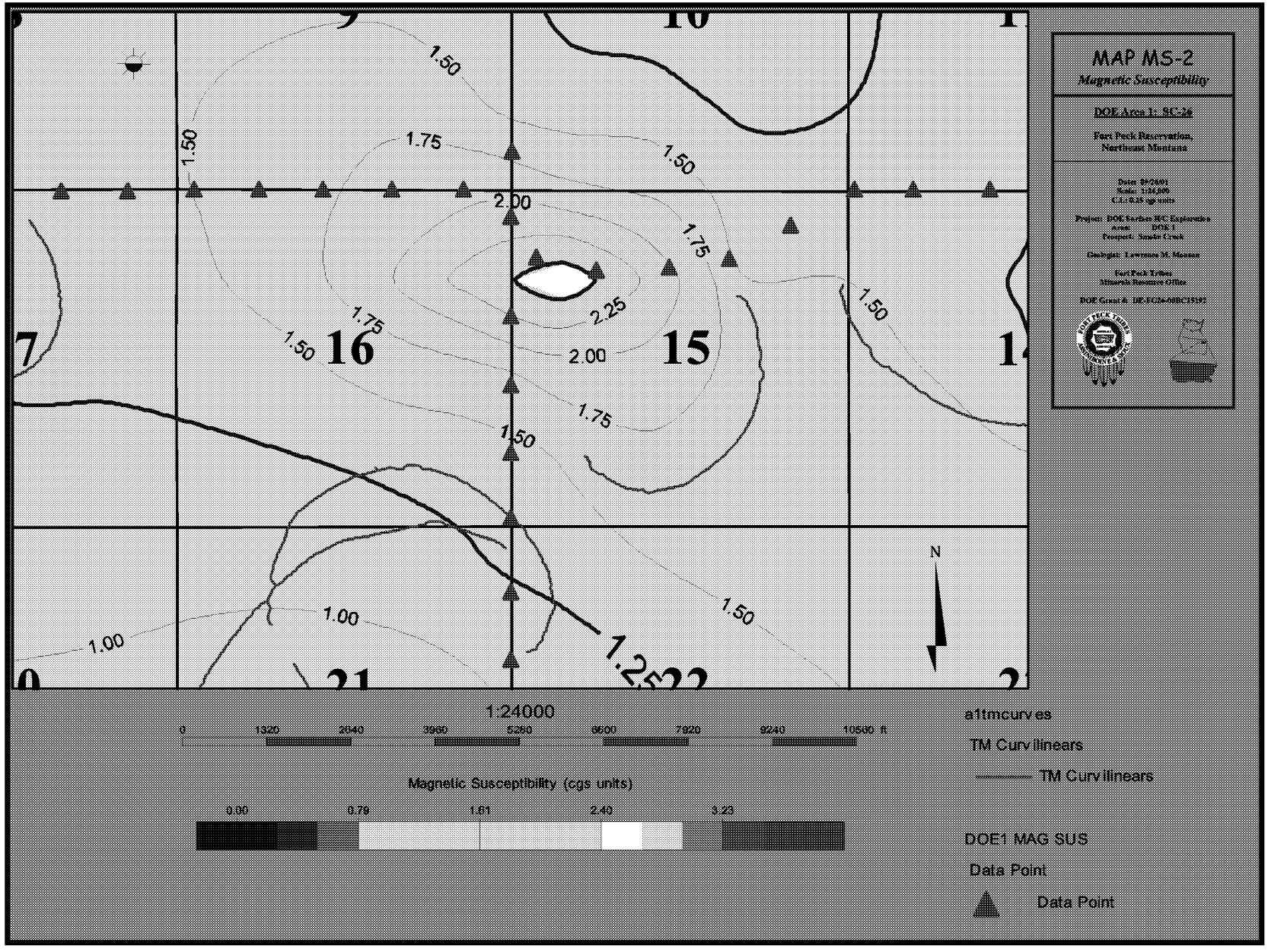


AREA 1 HG VS. K

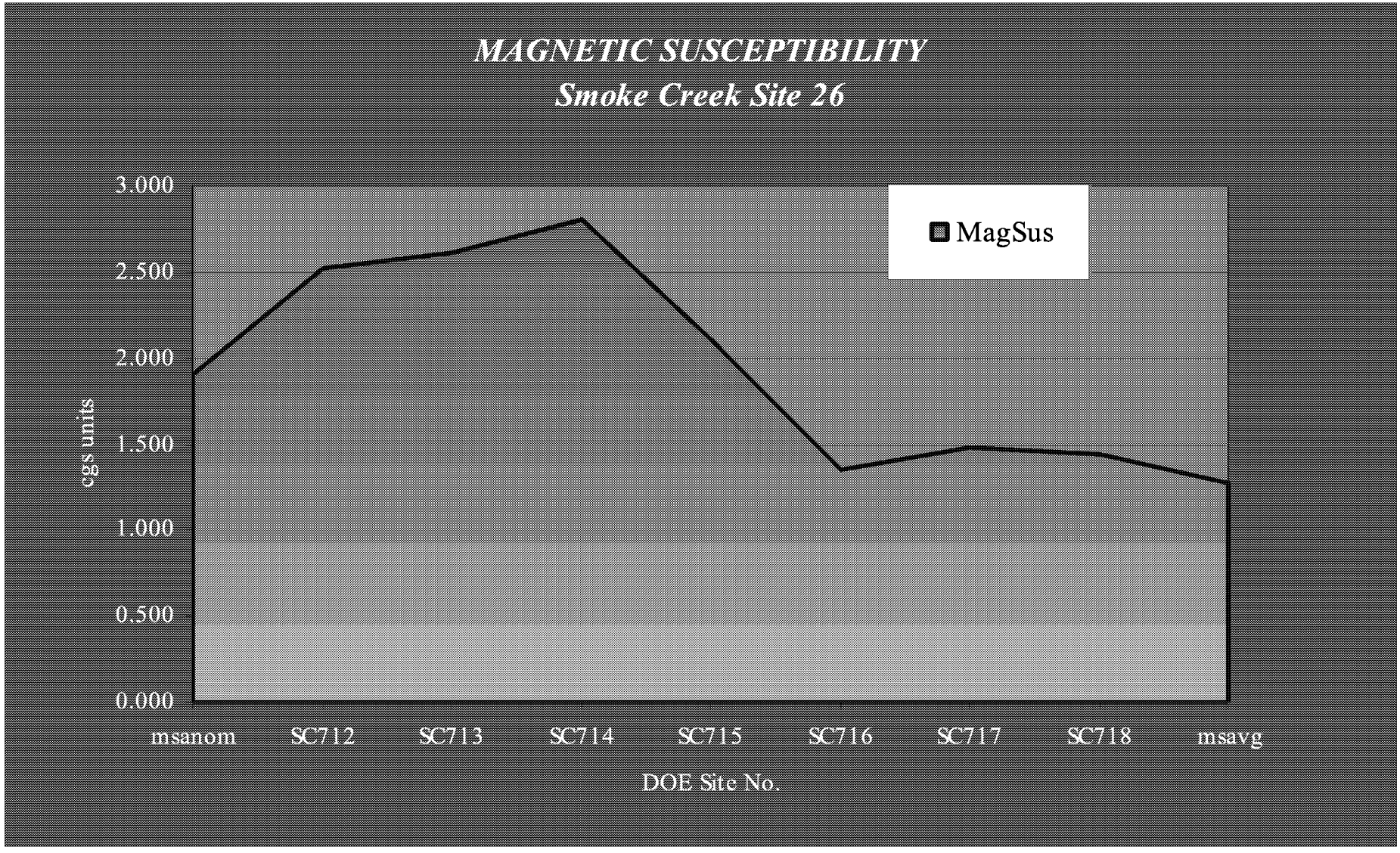

DATA COMPARISON: HEAD GAS PROPANE VS. CONDUCTIVITY
Smoke Creek Background Sites
K /200
Head Gas Propane
ppm, mhos / 200
0
1
2
3
4
5
6
7
8
9
10
sc-1 sc-2 sc-3 sc-4 sc-5 sc-6 sc-7 sc-8 sc-9 sc-10 sc-11 sc-12 sc-13 sc-14 sc-15 sc-16 sc-17 sc-18 sc-19 sc-20 sc-21 sc-22 sc-23 sc-24 sc-25 sc-26 sc-27 sc-28 sc-29 sc-30 sc-31 sc-32 sc-33 sc-34 sc-35 sc-36
DOE Site No.

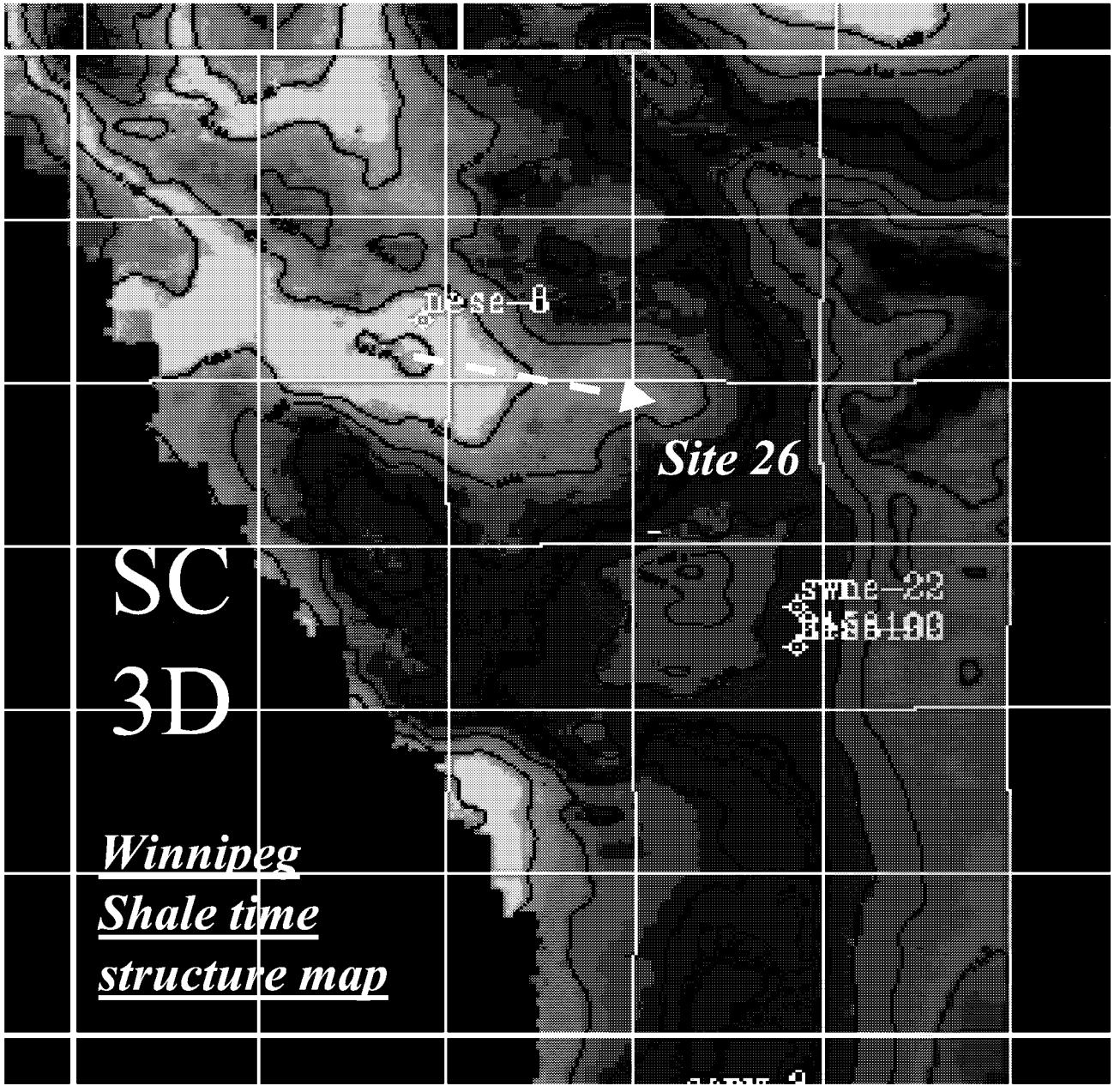
Part 2

Site 26 MagSus



Site 26 MagSus W-E




Site 26
SC
3D
Winnipeg
Shale time
structure map

sc26gps

TABLE 2A: DOE AREA 1, SMOKE CREEK NORTHWEST, SITE 26 SAMPLE LOCATIONS

DOESITENO	VEGETATION	SLOPE	SOIL	MOISTURE	AIRTEMP	BAROMETER	LATITUDE	LONGITUDE	DEPTH (in.)	DRAW	WEATHER	WIND	SITENO
			at probe/auger depth		F	psi	utm-y	utm-x	probe/auger	cc			
SC-26.1	grass	flat	loam	dry	67	28.2	5375445.1352	505081.74368801	3636	3.4	sunny	W0-5	1
SC-26.2	stubble	flat	loam	dry	67	28.2	5375399.0125	504932.72681416	3030	0.0	sunny	W10-20	2
SC-26.3	stubble	flat	silt	dry	67	28.2	5375427.8143	504761.40895661	3636	0.2	sunny	NW0-5	3
SC-26.4	grass	flat	silt	dry	67	28.2	5375443.1022	504621.15510168	3636	0.0	sunny	SW10	4
SC-26.5	stubble	gentle	loam	damp	70	28.0	5375442.6605	504465.33579334	3636	0.0	sunny	nw5	5
SC-26.6	summerfallow	gentle	loam	damp	70	28.0	5375441.0587	504291.40964116	3636	1.3	sunny	nw5	6
SC-26.7	stubble	gentle	silt	damp	70	27.4	5375446.4694	504124.62899007	3636	0.0	sunny	nw5	7
SC-26.8	stubble	flat	silt	dry	70	27.6	5375446.6201	503960.93076896	3630	1.0	sunny	nw20	8
SC-26.9	grass	flat	silt	dry	70	27.6	5375435.0833	503776.92844686	3636	0.9	sunny	nw10	9
SC-26.10	summerfallow	gentle	gravel	dry	67	28.0	5375439.6121	503640.68847824	3636	0.1	sunny	W0-10	10
SC-26.11	stubble	flat	loam	dry	67	28.0	5375438.3470	503500.52235025	3636	0.4	sunny	W0-5-15	11
SC-26.12	stubble	gentle	silt	dry	62	28.1	5375455.5457	503290.62440572	3632	0.1	cloudy	W0-5-15	12
SC-26.13	grass	gentle	gravel	dry	62	28.0	5375452.0644	503062.06865940	3632	1.3	cloudy	W0-5-15	13
SC-26.14	stubble	flat	silt	dry	62	28.0	5375455.6996	502878.30715737	3636	0.3	cloudy	W0-5-15	14
SC-26.15	stubble	flat	silt	dry	62	28.0	5375455.5062	502688.05544331	3236	0.3	cloudy	W0-5-15	15
SC-26.16	summerfallow	flat	loam	dry	62	28.0	5375457.0683	502482.73284523	3636	0.0	cloudy	W0-5-15	16
SC-26.17	summerfallow	flat	loam	damp	62	28.0	5375454.4622	502299.52986050	3636	0.0	cloudy	W0-5-15	17
SC-26.18	summerfallow	flat	loam	damp	64	28.0	5375454.8391	502074.55713592	3636	0.0	cloudy	W0-5-15	18
SC-26.19	summerfallow	flat	loam	damp	64	28.0	5375457.7395	501884.94473433	3636	0.0	cloudy	W05-20	19
SC-26.20	stubble	gentle	loam	dry	64	28.0	5376255.9986	503494.79318052	3636	2.4	cloudy	W10-20	20
SC-26.21	stubble	gentle	loam	dry	66	28.0	5376062.4202	503493.79175921	3632	0.0	cloudy	W10-20	21
SC-26.22	stubble	gentle	loam	dry	67	28.0	5375838.2197	503494.98442345	3636	0.3	cloudy	W10-20	22
SC-26.23	stubble	flat	loam	dry	66	27.8	5375631.2067	503493.39406367	3636	0.0	cloudy	W10-20	23
SC-26.24	stubble	gentle	loam	dry	69	27.8	5375254.2988	503489.96602356	3636	1.2	cloudy	W10-20	24
SC-26.25	stubble	flat	silt	dry	68	27.8	5375058.6203	503492.71475939	3836	0.0	cloudy	W10-20	25
SC-26.26	stubble	gentle	silt	dry	68	28.1	5374811.0157	503547.33327797	3836	1.2	partly overcast	SW0-5	26
SC-26.27	stubble	flat	silt	dry	69	28.1	5374632.4674	503492.97184491	3836	0.0	partly overcast	NW0-5	27
SC-26.28	stubble	gentle	silt	dry	65	28.0	5374412.0781	503489.75828193	3636	0.6	sunny	NW0-5	28
SC-26.29	stubble	gentle	silt	dry	65	28.0	5374222.9994	503489.24019938	3632	0.0	sunny	NW0-5	29
SC-26.30	stubble	gentle	silt	dry	65	27.8	5374031.1820	503490.91622502	3632	1.5	sunny	NW0-5	30
SC-26.31	stubble	flat	loam	dry	65	27.9	5373845.0521	503491.68121936	3636	0.0	sunny	NW0-5	31
SC-26.32	sagebrush	gentle	loam	dry	68	28.3	5373837.1411	503896.59998631	3624	0.7	sunny	NW0-5	32
SC-26.33	stubble	steep	clay	dry	68	28.4	5374240.1560	503892.76626264	3834	0.1	sunny	NW0-5	33
SC-26.34	stubble	gentle	loam	damp	68	28.4	5374418.3256	503899.95402469	3636	0.0	sunny	NW0-5	34
SC-26.35	grass	steep	silt	dry	68	28.4	5374648.5552	503912.56896899	3636	0.0	sunny	NW0-5	35
SC-26.36	stubble	gentle	silt	dry	68	28.4	5374834.4014	503900.05199692	3636	0.0	sunny	NW0-5	36
SC-26.37	grass	gentle	silt	dry	68	28.4	5375056.4619	503901.35783301	3432	0.0	sunny	NW0-5	37
SC-26.38	summerfallow	gentle	loam	wet	65	28.4	5375242.8555	503904.13265018	3636	0.0	sunny	NW0-5	38
SC-26.39	summerfallow	gentle	gravel	dry	62	28.4	5375247.2239	504295.40061437	2020	0.6	sunny	SW10	39
SC-26.40	summerfallow	gentle	loam	wet	62	28.4	5374992.5142	504294.01545257	3636	0.0	sunny	nw15	40
SC-26.41	summerfallow	gentle	loam	damp	62	28.1	5374814.5798	504296.82277728	3636	0.0	sunny	nw15	41
SC-26.42	stubble	gentle	loam	damp	62	28.1	5374639.6810	504305.84853653	3636	0.0	sunny	nw15	42
SC-26.43	stubble	gentle	loam	dry	56	28.1	5374427.8945	504301.87282405	3636	0.2	sunny	nw15	43
SC-26.44	stubble	flat	loam	dry	56	28.0	5374231.9158	504302.72661752	3636	1.6	sunny	nw10	44
SC-26.45	stubble	gentle	loam	dry	52	28.0	5373849.8909	504301.23451733	3636	0.9	sunny	nw10	45
SC-26.46	summerfallow	gentle	loam	damp	40	28.7	5375348.7241	503692.53196488	2624	0.0	sunny	NW10	46
SC-26.47	summerfallow	gentle	gravel	damp	40	28.5	5375172.2074	503692.13015792	1820	0.0	partly overcast	NW15	47
SC-26.48	grass	flat	gravel	damp	48	28.5	5374960.6696	503691.35787692	3633	0.0	partly overcast	NW15	48
SC-26.49	stubble	gentle	gravel	damp	48	28.5	5374730.5735	503694.76652860	3632	0.0	partly overcast	NW15	49
SC-26.50	summerfallow	gentle	loam	damp	48	28.2	5374726.1656	504093.96788076	3636	0.0	partly overcast	NW15	50
SC-26.51	summerfallow	steep	loam	damp	48	28.2	5374930.3003	504089.65648112	3636	0.4	partly overcast	NW15	51
SC-26.52	summerfallow	gentle	loam	damp	50	28.2	5374929.4613	504411.38777849	3636	0.0	sunny	NW15	52
SC-26.53	summerfallow	steep	loam	damp	50	28.2	5374731.3137	504419.60016446	3636	0.0	sunny	NW15	53
SC-26.54	summerfallow	gentle	loam	damp	50	28.2	5374238.7553	504707.75644003	3636	0.0	sunny	NW15	54
SC-26.55	summerfallow	gentle	loam	damp	50	28.2	5374644.4583	504703.66322020	3636	0.0	sunny	NW15	55
SC-26.56	summerfallow	flat	gravel	damp	50	28.2	5374832.1501	504710.99592994	1212	0.0	sunny	NW15	56
SC-26.57	summerfallow	gentle	gravel	dry	50	28.2	5375161.0952	504744.68702746	2424	0.0	sunny	NW15	57
SC-26.58	stubble	gentle	silt	dry	50	28.2	5375326.8887	504651.82784991	3636	0.0	sunny	NW10	58
SC-26.59	stubble	flat	silt	dry	50	28.2	5375324.4658	504449.61026874	1832	2.6	sunny	NW10	59
SC-26.60	stubble	gentle	silt	dry	50	28.5	5375325.1801	504098.79851489	3636	0.7	sunny	NW10	60
SC-26.61	summerfallow	flat	silt	damp	50	28.5	5375127.2620	504094.08160596	1822	0.1	sunny	NW10	61

TABLE 2B: DOE AREA 1, Smoke Creek, Northwest, Site 26 Data

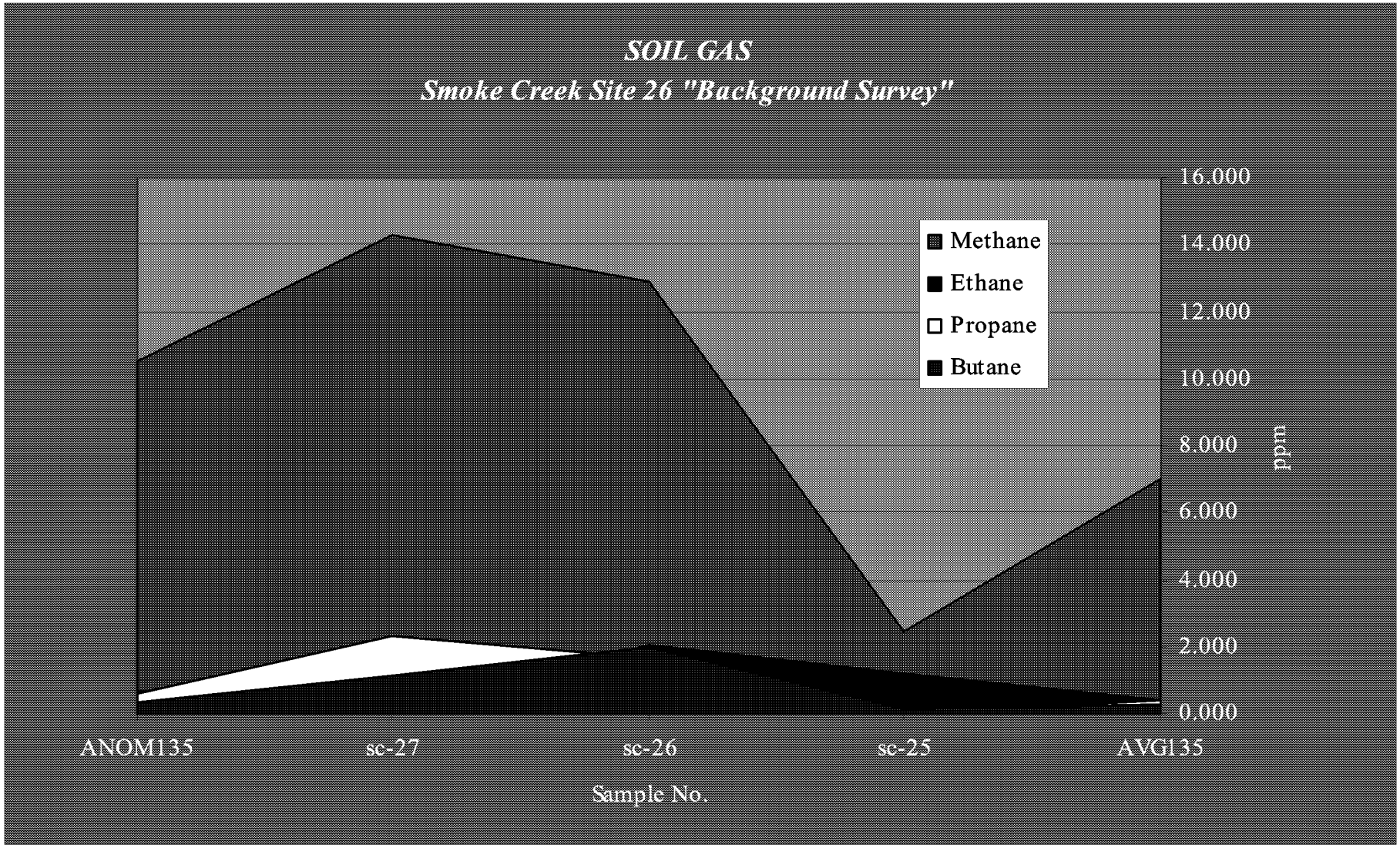
All ppm

DOESITENO	Soil Gas c1	c2	c3	ic4	nc4	c3 x 5	Head Gas METHANE	ETHANE	ETHENE	PROPANE	PROPENE	i-BUTANE	n-BUTANE	i-PENTANE	PENTANE
SC-26.1	5.289	0.151	0.241	0.087	0.126	1.205	14.902	1.028	2.912	0.635	0.013	0.113	0.397	0.016	0.107
SC-26.2	8.274	1.263	0.562	0.286	0.449	2.810	12.584	1.240	0.890	0.749	0.022	0.115	0.300	0.108	0.012
SC-26.3	4.649	0.582	0.195	0.186	0.037	0.975	20.094	2.689	1.840	1.738	0.041	0.387	0.594	0.207	0.131
SC-26.4	6.553	0.746	0.391	0.131	0.153	1.955	48.612	2.450	24.013	2.311	0.066	0.241	1.530	0.064	0.775
SC-26.5	6.804	0.000	0.000	0.104	0.000	0.000	12.218	1.178	2.881	0.725	0.024	0.114	0.595	0.000	0.000
SC-26.6	5.616	0.274	0.195	0.094	0.000	0.975	6.297	0.535	1.139	0.410	0.020	0.030	0.293	0.040	0.011
SC-26.7	4.833	0.255	0.169	0.053	0.105	0.845	25.337	2.375	13.615	1.447	0.093	0.199	1.345	0.154	0.092
SC-26.8	3.601	0.205	0.000	0.097	0.977	0.000	24.289	1.678	8.623	1.001	0.015	0.069	0.623	0.048	0.028
SC-26.9	5.035	0.000	0.000	0.038	0.000	0.000	35.569	2.419	60.580	4.724	0.076	0.243	5.904	0.599	2.422
SC-26.10	5.339	0.599	0.360	0.000	0.251	1.800	25.525	2.449	6.566	1.487	0.027	0.166	0.622	0.076	0.295
SC-26.11	4.355	0.000	0.175	0.000	0.100	0.875	7.158	0.597	0.367	0.380	0.019	0.055	0.117	0.000	0.029
SC-26.12	4.945	0.146	0.000	0.017	0.000	0.000	14.423	1.396	1.506	1.025	0.125	0.133	0.601	0.139	0.103
SC-26.13	5.283	0.332	0.305	0.047	0.027	1.525	101.660	7.797	20.672	4.141	0.018	0.433	1.870	0.543	1.585
SC-26.14	5.234	0.178	0.197	0.055	0.139	0.985	16.026	1.937	3.757	1.199	0.086	0.141	0.808	0.085	0.045
SC-26.15	5.442	0.303	0.174	0.160	0.092	0.870	39.127	2.670	3.754	1.217	0.013	0.039	0.641	0.059	0.041
SC-26.16	4.911	0.186	0.128	0.000	0.113	0.640	30.277	2.638	6.493	1.511	0.146	0.251	0.641	0.117	0.037
SC-26.17	5.717	0.276	0.213	0.145	0.207	1.065	11.541	3.741	19.003	4.277	0.012	0.492	1.729	0.387	1.170
SC-26.18	5.328	0.129	0.152	0.000	0.101	0.760	5.997	0.531	0.621	0.440	0.035	0.113	0.253	0.024	0.081
SC-26.19	4.479	0.248	0.117	0.108	0.090	0.585	7.128	0.867	0.851	0.480	0.081	0.018	0.303	0.143	0.036
SC-26.20	5.027	0.432	0.288	0.000	0.000	1.440	11.098	0.695	3.495	0.252	0.041	0.107	0.520	0.056	0.000
SC-26.21	3.653	0.250	0.000	0.071	0.000	0.000	24.846	1.926	5.840	1.288	0.022	0.103	0.816	0.180	0.326
SC-26.22	5.354	0.405	0.113	0.000	0.190	0.565	9.994	0.748	4.846	0.603	0.010	0.179	0.568	0.038	0.245
SC-26.23	4.597	0.000	0.153	0.061	0.106	0.765	11.146	0.740	0.789	0.472	0.089	0.207	0.058	0.009	0.013
SC-26.24	5.085	0.000	0.000	0.140	0.000	0.000	19.650	2.250	10.441	1.360	0.081	0.019	0.371	0.139	0.175
SC-26.25	4.323	0.000	0.000	0.037	0.090	0.000	107.690	15.179	17.111	6.371	0.092	0.476	2.077	0.502	0.965
SC-26.26	5.538	0.433	0.452	0.087	0.203	2.260	6.473	0.891	0.932	0.628	0.106	0.109	0.322	0.120	0.066
SC-26.27	5.237	0.000	0.188	0.088	0.032	0.940	25.234	2.841	3.801	1.419	0.126	0.009	0.403	0.093	0.055
SC-26.28	5.716	0.234	0.000	0.000	0.000	0.000	5.451	0.536	0.368	0.334	0.061	0.088	0.159	0.041	0.012
SC-26.29	6.388	0.128	0.216	0.000	0.151	1.080	48.073	5.365	6.735	2.384	0.024	0.135	0.843	0.234	0.224
SC-26.30	4.751	0.279	0.165	0.226	0.189	0.825	12.510	0.913	1.419	0.510	0.087	0.027	0.324	0.000	0.058
SC-26.31	7.292	0.000	0.202	0.090	0.052	1.010	4.611	0.339	0.448	0.177	0.020	0.027	0.149	0.049	0.000
SC-26.32	5.793	0.475	0.139	0.042	0.077	0.695	54.889	4.512	12.647	2.206	0.047	0.183	0.843	0.059	0.627
SC-26.33	8.535	0.000	0.188	0.000	0.000	0.940	44.843	8.310	5.152	3.562	0.078	0.265	0.816	0.306	0.103
SC-26.34	6.355	0.271	0.170	0.085	0.203	0.850	8.091	0.840	0.448	0.523	0.049	0.107	0.192	0.020	0.000
SC-26.35	3.950	0.000	0.000	0.104	0.031	0.000	31.168	3.975	7.404	1.764	0.057	0.064	0.654	0.129	0.079
SC-26.36	5.208	0.353	0.130	0.134	0.000	0.650	11.969	1.573	1.200	0.947	0.088	0.041	0.366	0.136	0.079
SC-26.37	9.723	1.193	0.394	0.074	0.093	1.970	120.910	20.322	14.109	8.210	0.118	0.734	2.817	0.736	1.253
SC-26.38	6.516	0.584	0.418	0.136	0.223	2.090	8.240	0.970	0.458	0.597	0.174	0.125	0.300	0.067	0.013
SC-26.39	11.031	1.712	0.843	0.000	0.287	4.215	25.180	4.207	3.387	2.188	0.048	0.313	0.770	0.322	0.107
SC-26.40	6.675	0.587	0.323	0.000	0.000	1.615	8.292	1.101	0.605	0.747	0.033	0.114	0.436	0.139	0.050
SC-26.41	4.263	0.424	0.228	0.068	0.078	1.140	10.667	1.298	1.167	0.887	0.045	0.151	0.366	0.095	0.212
SC-26.42	4.269	0.428	0.042	0.125	0.000	0.210	21.863	3.795	2.457	2.316	0.023	0.267	0.602	0.199	0.430
SC-26.43	5.399	0.258	0.096	0.000	0.083	0.480	11.501	1.906	0.884	1.275	0.122	0.178	0.464	0.125	0.056
SC-26.44	4.378	0.310	0.150	0.023	0.133	0.750	16.778	2.691	1.686	1.830	0.020	0.223	0.897	0.071	0.124
SC-26.45	5.967	0.400	0.000	0.145	0.205	0.000	18.274	2.687	1.675	1.624	0.132	0.193	0.689	0.065	0.036
SC-26.46	9.802	1.459	0.826	0.203	0.268	4.130	5.795	0.627	0.538	0.438	0.013	0.026	0.269	0.040	0.072
SC-26.47	9.289	1.062	0.633	0.206	0.099	3.165	2.084	0.286	0.342	0.185	0.030	0.062	0.077	0.018	0.000
SC-26.48	6.744	0.788	0.361	0.232	0.071	1.805	43.169	5.598	15.844	2.591	0.019	0.192	1.114	0.291	0.993
SC-26.49	5.356	0.222	0.210	0.000	0.092	1.050	32.279	5.023	4.054	2.131	0.018	0.249	0.937	0.137	0.454
SC-26.50	5.760	0.164	0.202	0.019	0.090	1.010	6.361	0.702	0.300	0.060	0.066	0.047	0.114	0.042	0.017
SC-26.51	5.581	0.472	0.240	0.120	0.042	1.200	16.545	1.578	1.561	0.837	0.020	0.131	0.297	0.107	0.012
SC-26.52	5.345	0.352	0.206	0.000	0.373	1.030	5.363	0.596	0.378	0.148	0.052	0.026	0.089	0.085	0.037
SC-26.53	5.131	0.259	0.163	0.000	0.179	0.815	9.661	1.040	0.514	0.659	0.035	0.091	0.133	0.017	0.000
SC-26.54	6.049	0.768	0.249	0.070	0.000	1.245	6.069	0.760	0.352	0.051	0.131	0.074	0.141	0.077	0.000
SC-26.55	5.031	0.139	0.282	0.139	0.088	1.410	25.194	2.434	10.946	1.647	0.091	0.172	1.483	0.258	0.238
SC-26.56	7.555	0.517	0.265	0.000	0.144	1.325	8.943	0.872	0.901	0.064	0.059	0.047	0.168	0.025	0.000
SC-26.57	10.383	1.628	0.656	0.081	0.860	3.280	11.220	1.472	1.762	0.816	0.035	0.135	0.211	0.020	0.014
SC-26.58	5.176	0.376	0.299	0.012	0.000	1.495	35.114	3.944	2.723	1.807	0.107	0.156	0.838	0.095	0.210
SC-26.59	18.721	1.456	0.522	0.052	0.254	2.610	7.908	1.239	2.579	0.774	0.099	0.036	0.459	0.112	0.045
SC-26.60	6.134	0.461	0.334	0.075	0.323	1.670	19.555	2.668	2.383	1.434	0.050	0.107	0.714	0.004	0.100
SC-26.61	5.471	0.625	0.364	0.062	0.119	1.820	14.168	2.439	1.965	1.281	0.043	0.126	0.420	0.041	0.000
MIN	3.601	0.000	0.000	0.000	0.000	0.000	2.084	0.286	0.300	0.051	0.010	0.009	0.058	0.000	0.000
MAX	18.721	1.712	0.843	0.286	0.977	4.215	120.910	20.322	60.580	8.210	0.174	0.734	5.904	0.736	2.422
AVG	6.069	0.423	0.234	0.076	0.138	1.171	22.748	2.657	5.520	1.464	0.059	0.155	0.712	0.133	0.238
STDEV	2.295	0.414	0.191	0.070	0.177	0.954	23.682	3.314	9.126	1.498	0.041	0.133	0.858	0.151	0.444
ANOMALY(1.5	9.104	0.634	0.351	0.113	0.206	1.756	34.122	3.986	8.280	2.196	0.088	0.233	1.068	0.199	0.357

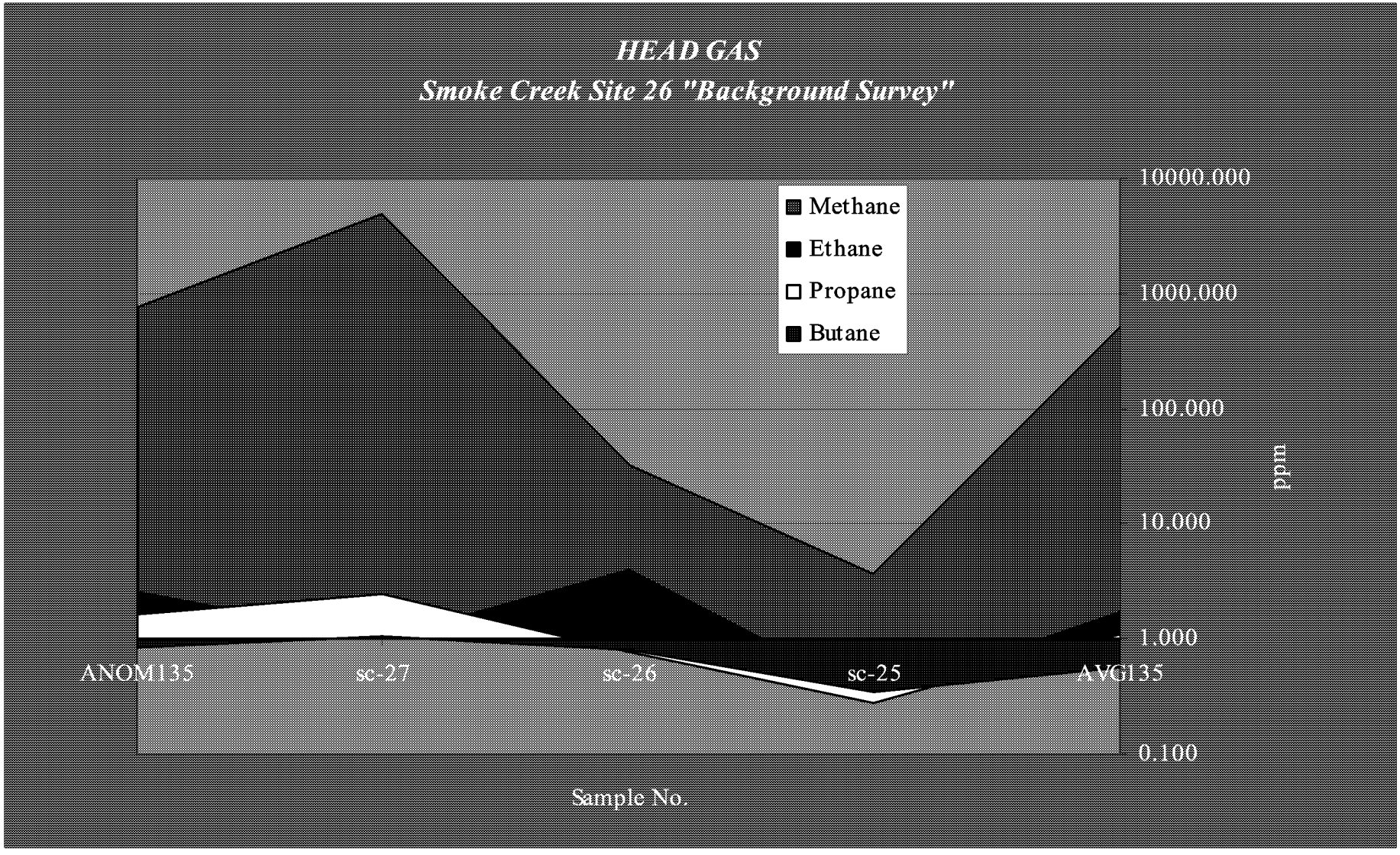
TABLE 2C: DOE AREA 1, Smoke Creek, Northwest, Site 26 Other Non-gas Data

DOESITENO	EH	PH	COND	Microbial MV	Microbial SMV	MV / 10	Iodine ppm Iodine	Eh /10	pH7 x 20	K / 200
SC-26.1	261.3	7.22	1233	29	35	2.9	1.3	26.1	4.4	6.2
SC-26.2	259.7	7.26	887	33	37	3.3	1.5	26.0	5.2	4.4
SC-26.3	248.0	7.51	564	45	46	4.5	3.5	24.8	10.2	2.8
SC-26.4	1.9	6.64	1143	51	51	5.1	1.1	0.2	-7.2	5.7
SC-26.5	125.7	7.57	1292	78	58	7.8	2.5	12.6	11.4	6.5
SC-26.6	185.6	7.16	760	30	43	3	1.7	18.6	3.2	3.8
SC-26.7	142.7	6.70	924	57	50	5.7	1.2	14.3	-6.0	4.6
SC-26.8	150.8	6.61	969	45	44	4.5	1.2	15.1	-7.8	4.8
SC-26.9	69.0	6.52	1140	40	43	4	1.1	6.9	-9.6	5.7
SC-26.10	154.4	7.09	747	33	40	3.3	1.5	15.4	1.8	3.7
SC-26.11	197.6	7.16	617	54	48	5.4	1.2	19.8	3.2	3.1
SC-26.12	216.2	7.23	751	30	40	3	5.3	21.6	4.6	3.8
SC-26.13	-90.0	6.88	940	41	41	4.1	4.1	-9.0	-2.4	4.7
SC-26.14	114.0	7.05	814	47	41	4.7	1.3	11.4	1.0	4.1
SC-26.15	178.4	7.18	664	37	39	3.7	1.1	17.8	3.6	3.3
SC-26.16	210.5	6.96	753	45	35	4.5	1.5	21.1	-0.8	3.8
SC-26.17	150.4	6.83	500	18	29	1.8	1.3	15.0	-3.4	2.5
SC-26.18	172.7	7.78	676	21	29	2.1	6.0	17.3	15.6	3.4
SC-26.19	225.3	7.21	685	37	33	3.7	1.4	22.5	4.2	3.4
SC-26.20	249.8	6.91	860	43	40	4.3	1.3	25.0	-1.8	4.3
SC-26.21	259.2	6.65	843	25	38	2.5	1.4	25.9	-7.0	4.2
SC-26.22	266.1	6.77	884	46	41	4.6	0.9	26.6	-4.6	4.4
SC-26.23	238.4	7.65	675	41	48	4.1	1.9	23.8	13.0	3.4
SC-26.24	294.0	6.78	598	80	58	8	1.0	29.4	-4.4	3.0
SC-26.25	204.8	6.99	885	40	46	4	1.5	20.5	-0.2	4.4
SC-26.26	218.6	7.28	613	36	39	3.6	1.7	21.9	5.6	3.1
SC-26.27	212.0	7.26	559	24	33	2.4	8.5	21.2	5.2	2.8
SC-26.28	221.4	7.68	600	46	38	4.6	2.1	22.1	13.6	3.0
SC-26.29	257.8	6.97	847	31	36	3.1	1.4	25.8	-0.6	4.2
SC-26.30	253.9	7.27	773	42	38	4.2	1.0	25.4	5.4	3.9
SC-26.31	259.7	7.21	626	36	37	3.6	2.5	26.0	4.2	3.1
SC-26.32	237.6	6.20	1132	29	34	2.9	1.9	23.8	-16.0	5.7
SC-26.33	-223.5	7.87	675	36	33	3.6	7.6	-22.4	17.4	3.4
SC-26.34	84.0	7.61	530	39	36	3.9	6.0	8.4	12.2	2.7
SC-26.35	34.0	7.13	971	42	34	4.2	1.9	3.4	2.6	4.9
SC-26.36	151.5	7.54	697	29	36	2.9	3.5	15.2	10.8	3.5
SC-26.37	111.8	7.23	531	44	42	4.4	3.0	11.2	4.6	2.7
SC-26.38	194.8	6.91	317	38	43	3.8	1.9	19.5	-1.8	1.6
SC-26.39	238.1	6.90	614	34	38	3.4	1.9	23.8	-2.0	3.1
SC-26.40	164.8	7.71	488	32	38	3.2	3.0	16.5	14.2	2.4
SC-26.41	183.1	7.42	672	25	38	2.5	5.3	18.3	8.4	3.4
SC-26.42	207.5	7.50	796	22	28	2.2	6.8	20.8	10.0	4.0
SC-26.43	-73.9	7.84	599	14	27	1.4	9.5	-7.4	16.8	3.0
SC-26.44	161.4	7.61	702	19	24	1.9	10.7	16.1	12.2	3.5
SC-26.45	166.4	7.58	673	27	30	2.7	5.3	16.6	11.6	3.4
SC-26.46	235.3	6.90	497	42	48	4.2	1.9	23.5	-2.0	2.5
SC-26.47	246.8	7.10	627	53	45	5.3	9.5	24.7	2.0	3.1
SC-26.48	234.8	6.61	858	40	39	4	1.1	23.5	-7.8	4.3
SC-26.49	237.4	7.16	570	30	35	3	1.2	23.7	3.2	2.9
SC-26.50	198.4	8.00	520	21	31	2.1	8.5	19.8	20.0	2.6
SC-26.51	227.0	7.56	698	41	37	4.1	3.0	22.7	11.2	3.5
SC-26.52	228.8	7.82	579	50	41	5	2.5	22.9	16.4	2.9
SC-26.53	249.0	7.42	703	54	41	5.4	1.1	24.9	8.4	3.5
SC-26.54	32.2	7.97	585	19	31	1.9	1.9	3.2	19.4	2.9
SC-26.55	159.8	6.79	932	52	45	5.2	1.9	16.0	-4.2	4.7
SC-26.56	204.9	7.28	483	42	45	4.2	0.9	20.5	5.6	2.4
SC-26.57	248.9	6.70	707	65	53	6.5	1.1	24.9	-6.0	3.5
SC-26.58	248.2	7.31	505	47	48	4.7	1.8	24.8	6.2	2.5
SC-26.59	271.6	6.75	671	46	49	4.6	1.5	27.2	-5.0	3.4
SC-26.60	256.0	7.51	629	42	44	4.2	1.5	25.6	10.2	3.1
SC-26.61	268.5	6.99	577	48	44	4.8	1.3	26.9	-0.2	2.9
MIN	-223.5	6.20	317	14	24	1.4	0.9	-22.4	-16.00	1.6
MAX	294.0	8.00	1292	80	58	8.0	10.7	29.4	20.00	6.5
AVG	181.9	7.20	727	39	40	3.9	2.9	18.2	3.90	3.6
STDEV	96.4	0.40	197	13	7	1.3	2.5	9.6	8.01	1.0
ANOMALY(1.5)	121.3	7.60	1091	59	60	5.9	4.3	12.1	11.92	5.5

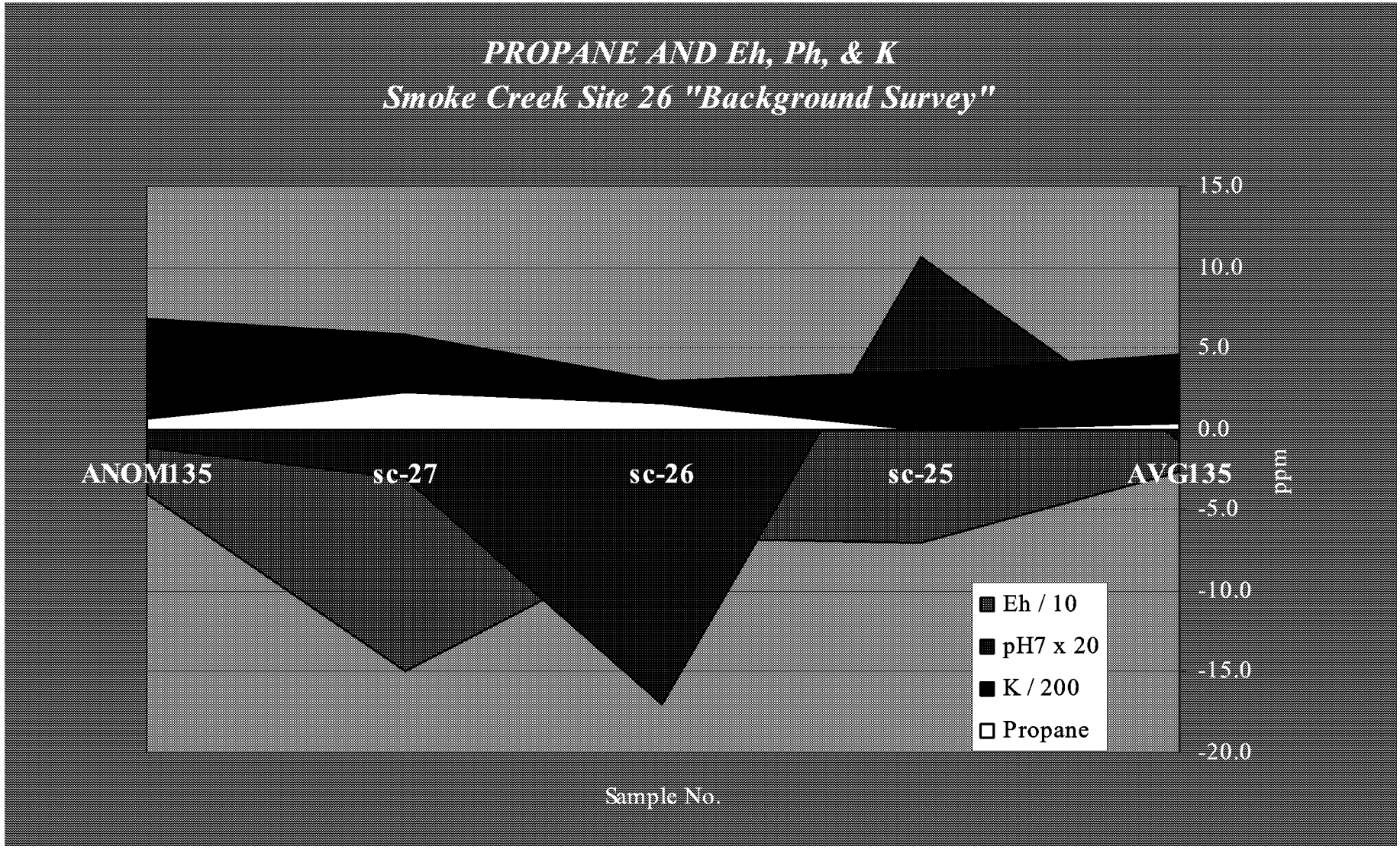
Site 26 Soil Gases W-E



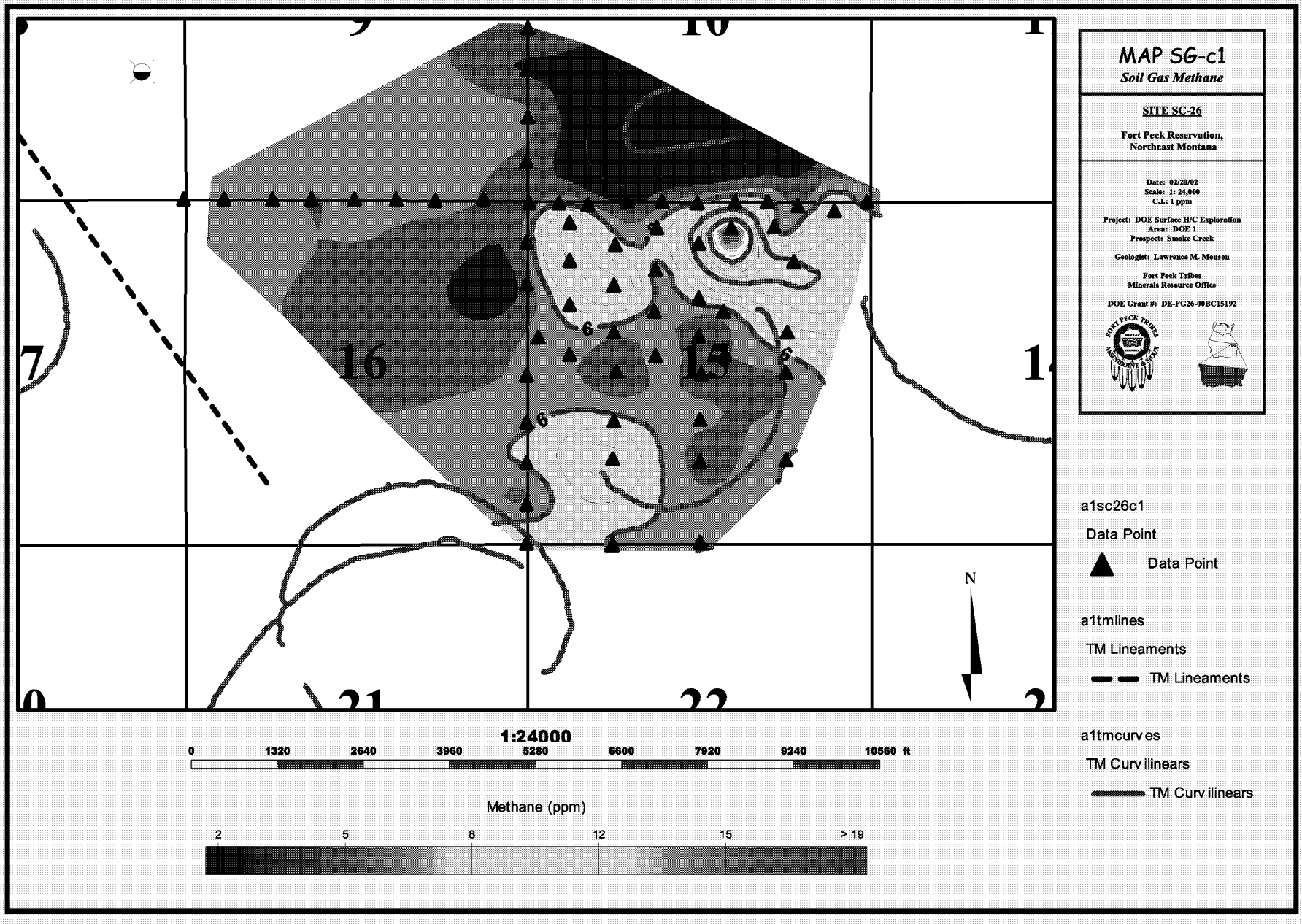
Site 26 Head Gases W-E



Site 26, C3,Eh,pH,K



Site 26 SG-c1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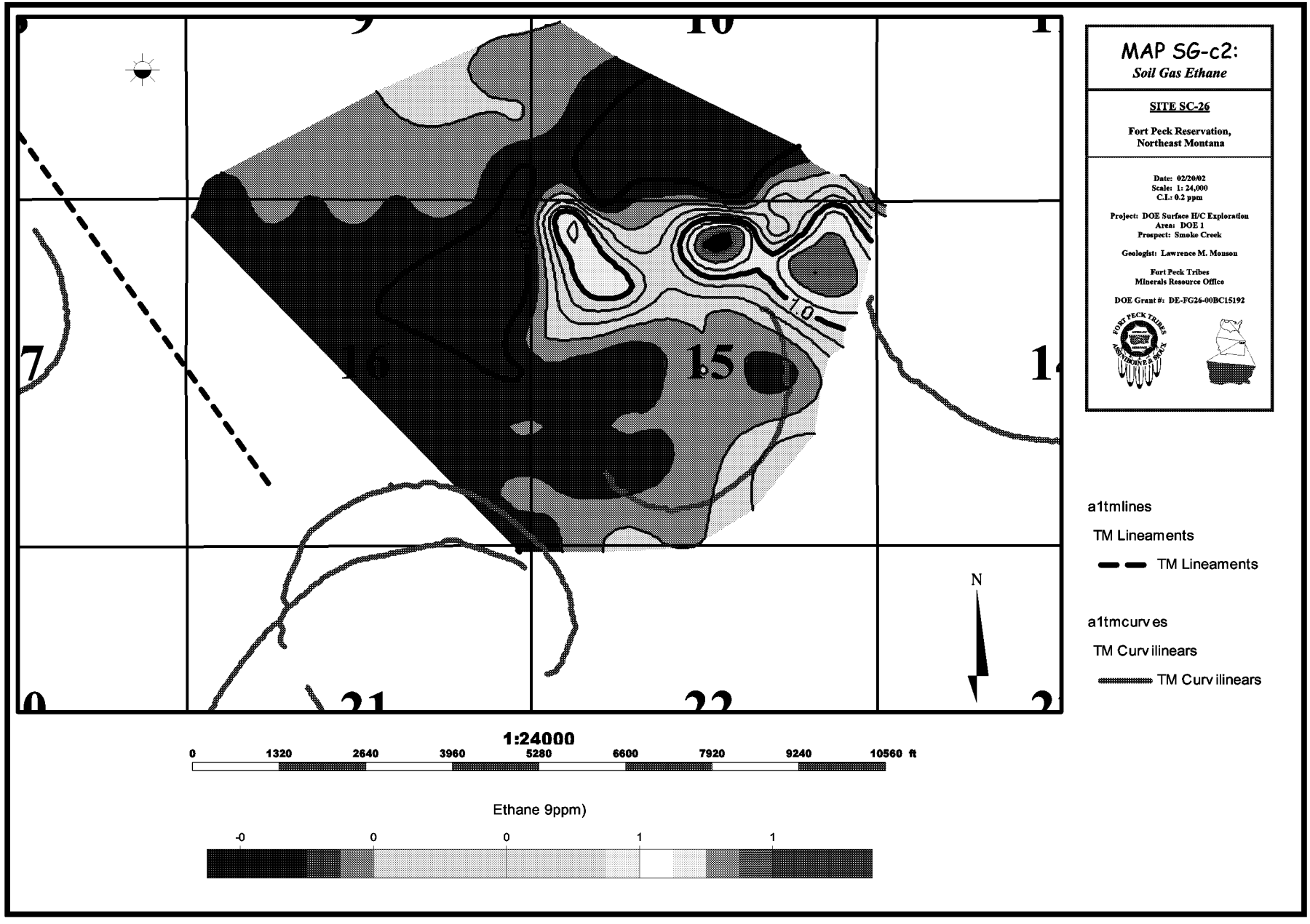
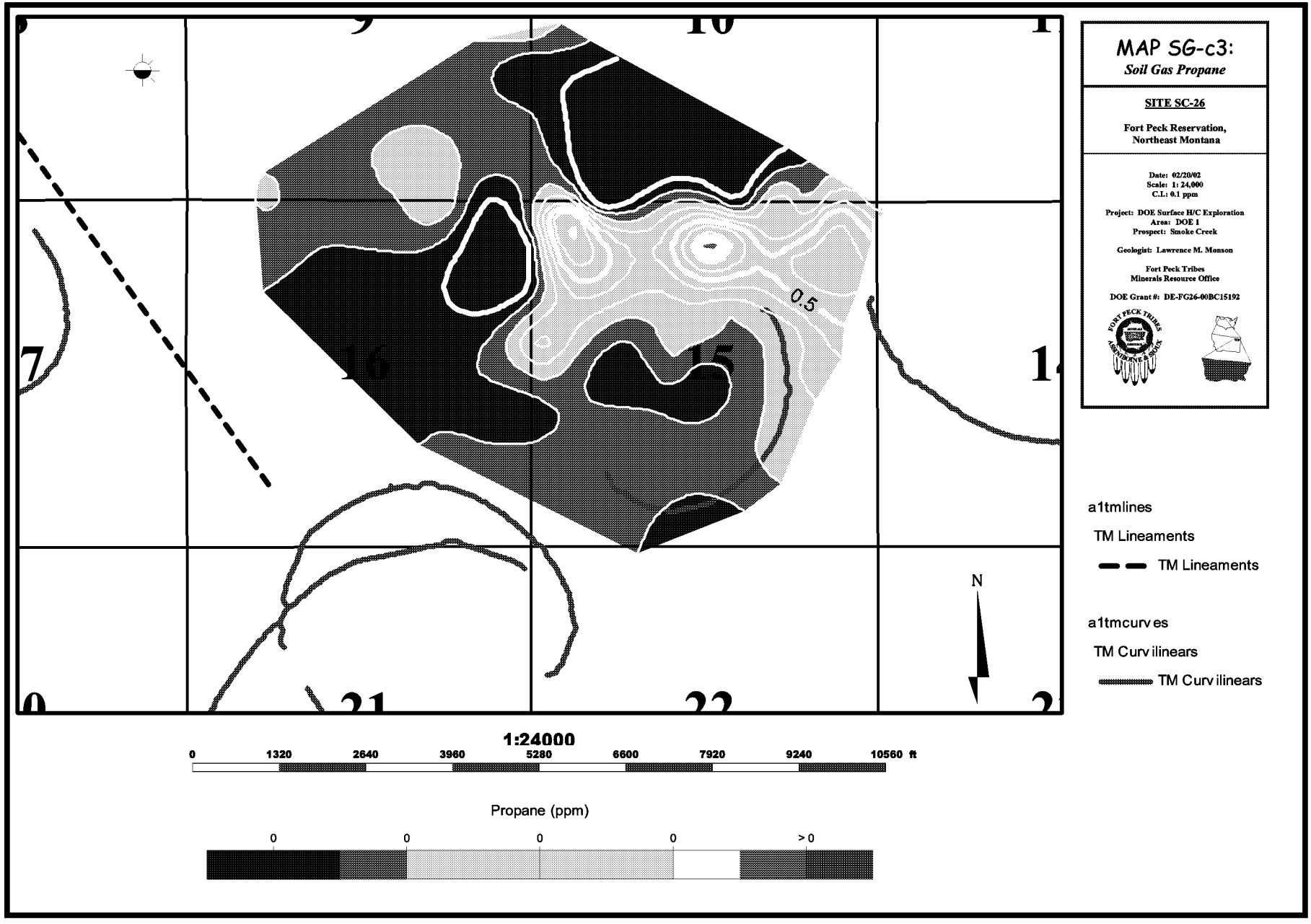
Soil Gas Methane
SITE SC-26
Fort Peck Reservation,
Northeast Montana
Date: 02/20/02
Scale: 1: 24,000
C.I.: 1 ppm
Project: DOE Surface H/C Exploration
Area: DOE 1
Prospect: Smoke Creek
Geologist: Lawrence M. Monson
Fort Peck Tribes
Minerals Resource Office
DOE Grant #: DE-FG26-00BC15192
FORT PECK TRIBES
MINERALS RESOURCE OFFICE
a1sc26c1
Data Point
Data Point
a1tmlines
TM Lineaments
TM Lineaments
a1tmcurves
TM Curvilinears
TM Curvilinears
N
16
15
7
6
1:24000
0
1320
2640
3960
5280
6600
7920
9240
10560 ft
Methane (ppm)
2
5
8
12
15
> 19

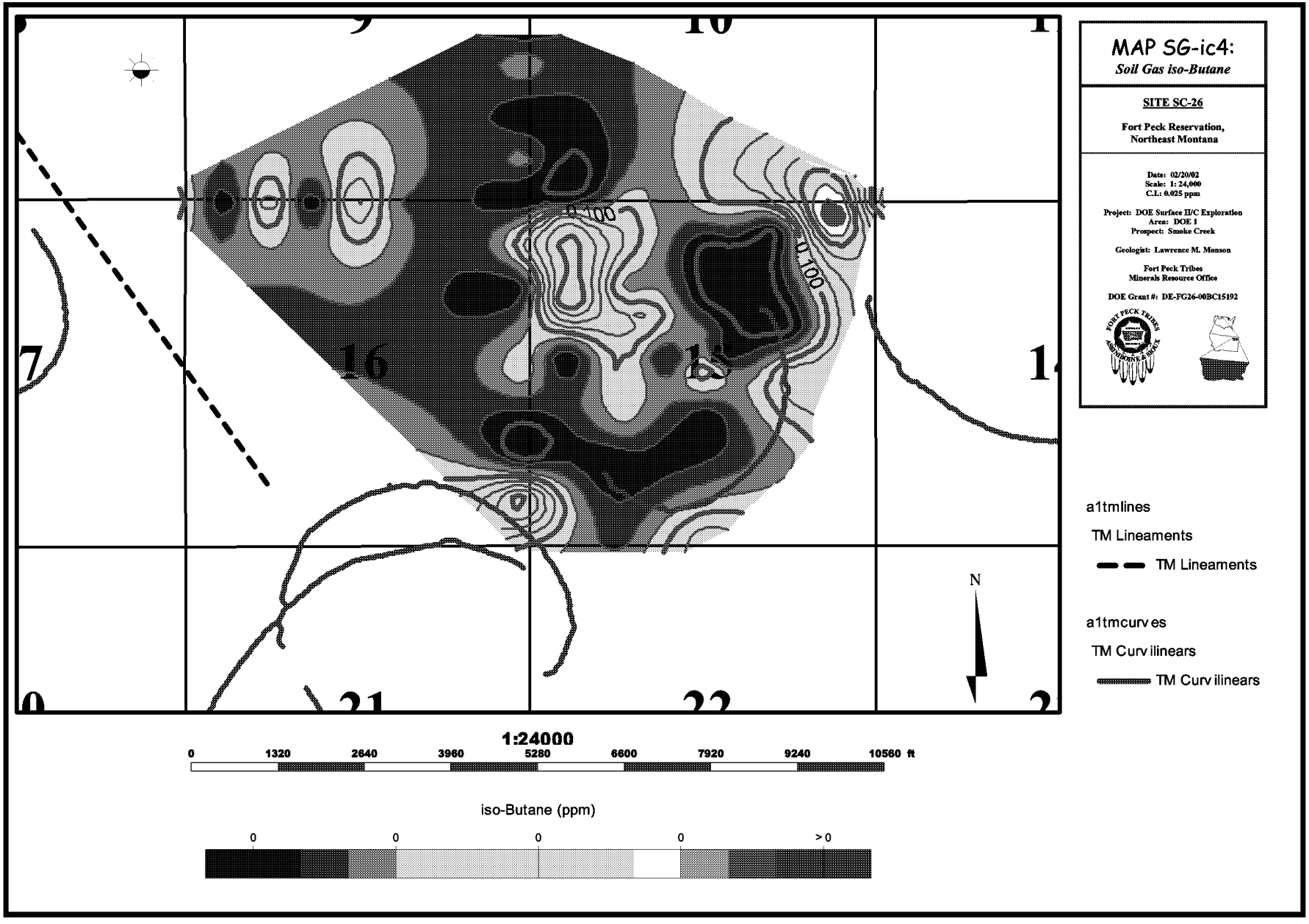
Site 26 SG-c2


MAP SG-c2:
Soil Gas Ethane
SITE SC-26
Fort Peck Reservation,
Northeast Montana
Date: 02/20/02
Scale: 1: 24,000
C.I.: 0.2 ppm
Project: DOE Surface H/C Exploration
Area: DOE 1
Prospect: Smoke Creek
Geologist: Lawrence M. Monson
Fort Peck Tribes
Minerals Resource Office
DOE Grant #: DE-FG26-00BC15192
FORT PECK TRIBES
ASSINIBOINE & SIOUX
1.0
1.5
N
a1tmlines
TM Lineaments
TM Lineaments
a1tmcurves
TM Curvilinears
TM Curvilinears
1:24000
0
1320
2640
3960
5280
6600
7920
9240
10560 ft
Ethane 9ppm)
-0
0
0
1
1

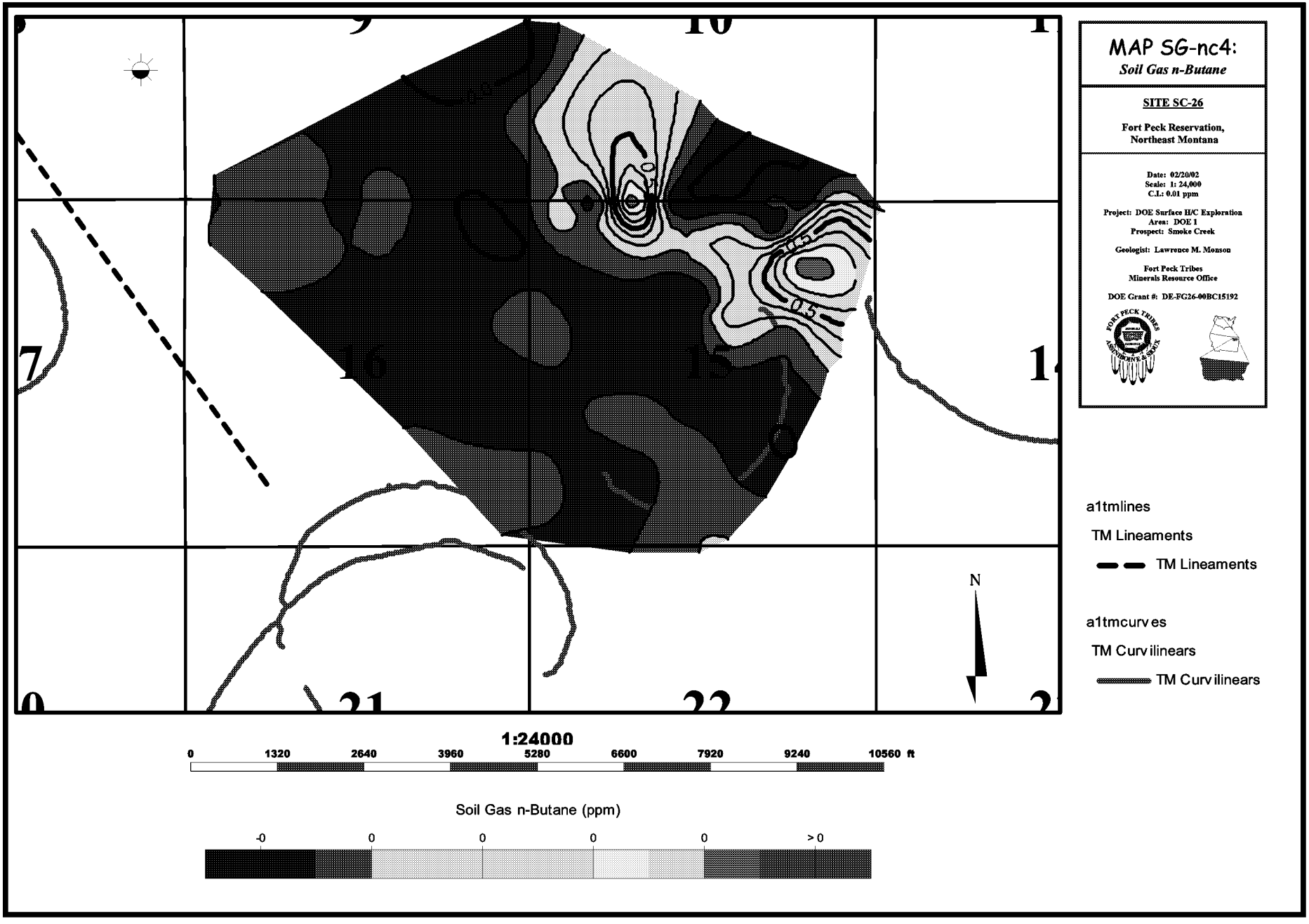
Site 26 SG-c3


MAP SG-c3:
Soil Gas Propane
SITE SC-26
Fort Peck Reservation,
Northeast Montana
Date: 02/20/02
Scale: 1: 24,000
C.I.: 0.1 ppm
Project: DOE Surface H/C Exploration
Area: DOE 1
Prospect: Smoke Creek
Geologist: Lawrence M. Monson
Fort Peck Tribes
Minerals Resource Office
DOE Grant #: DE-FG26-00BC15192
FORT PECK TRIBES
ASSINIBOINE & SIOUX
0.5
N
a1tmlines
TM Lineaments
TM Lineaments
a1tmcurves
TM Curvilinears
TM Curvilinears
1:24000
0
1320
2640
3960
5280
6600
7920
9240
10560 ft
Propane (ppm)
0
0
0
0
> 0

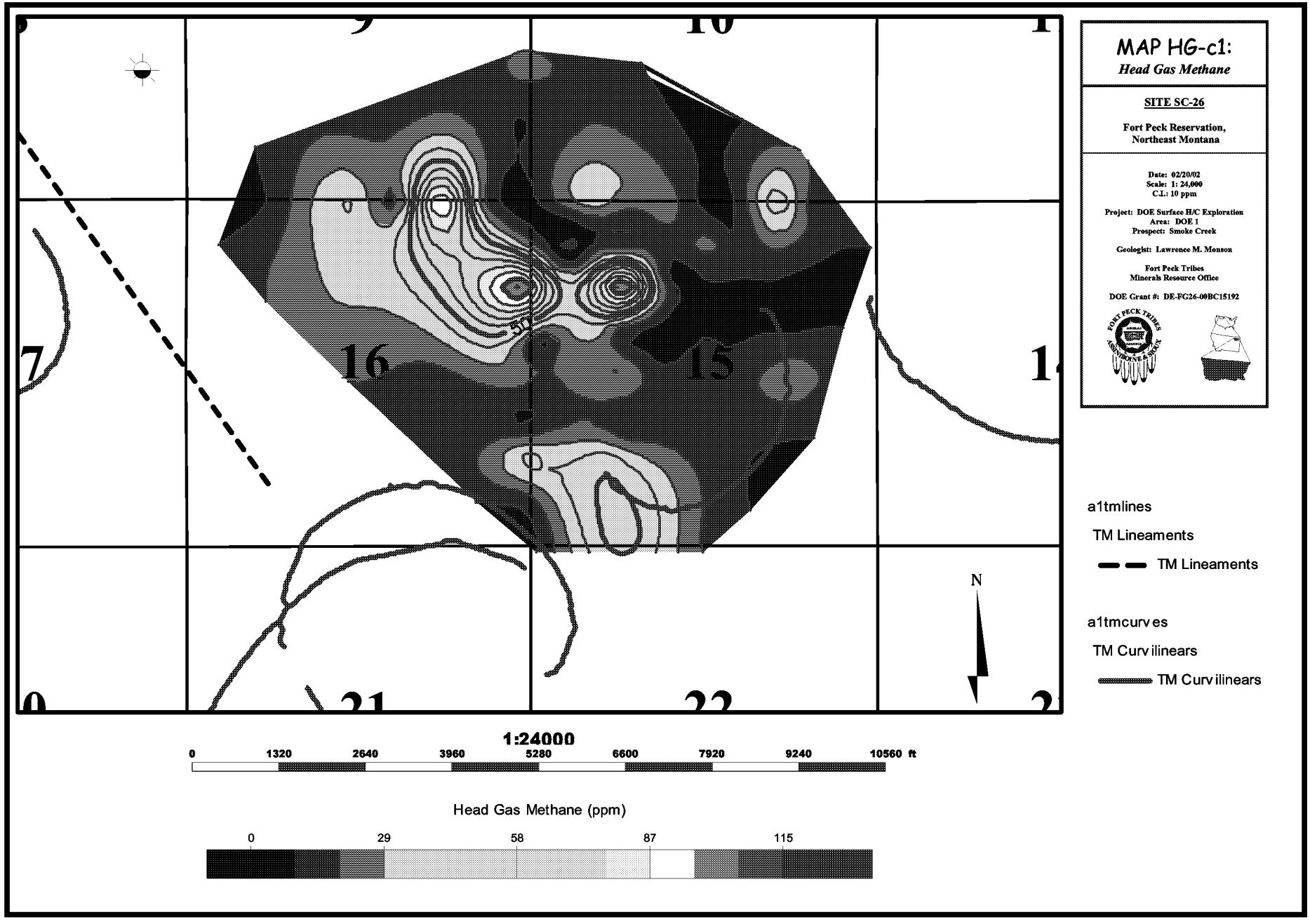
Site 26 SG-ic4



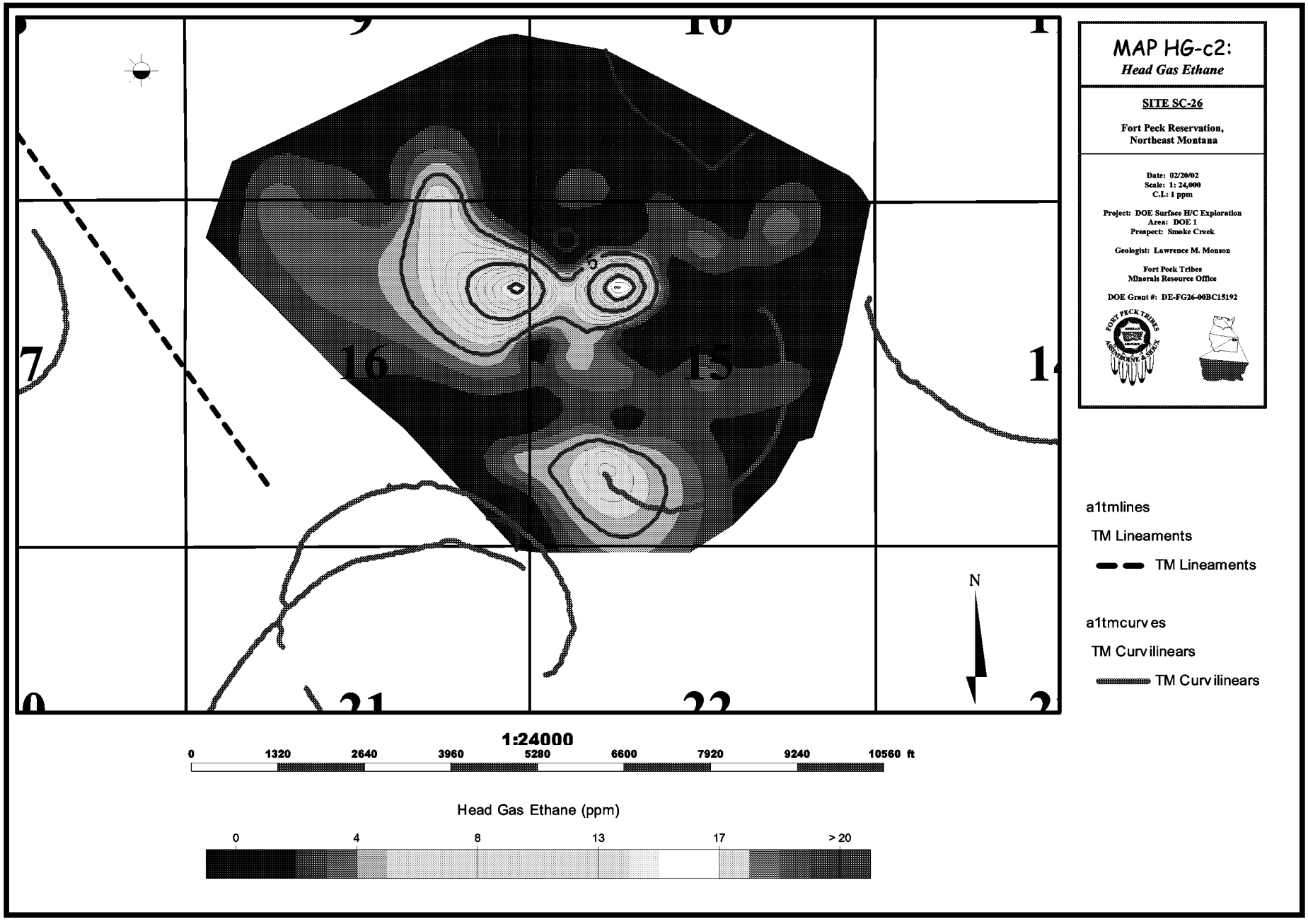
Site 26 SG-nc4



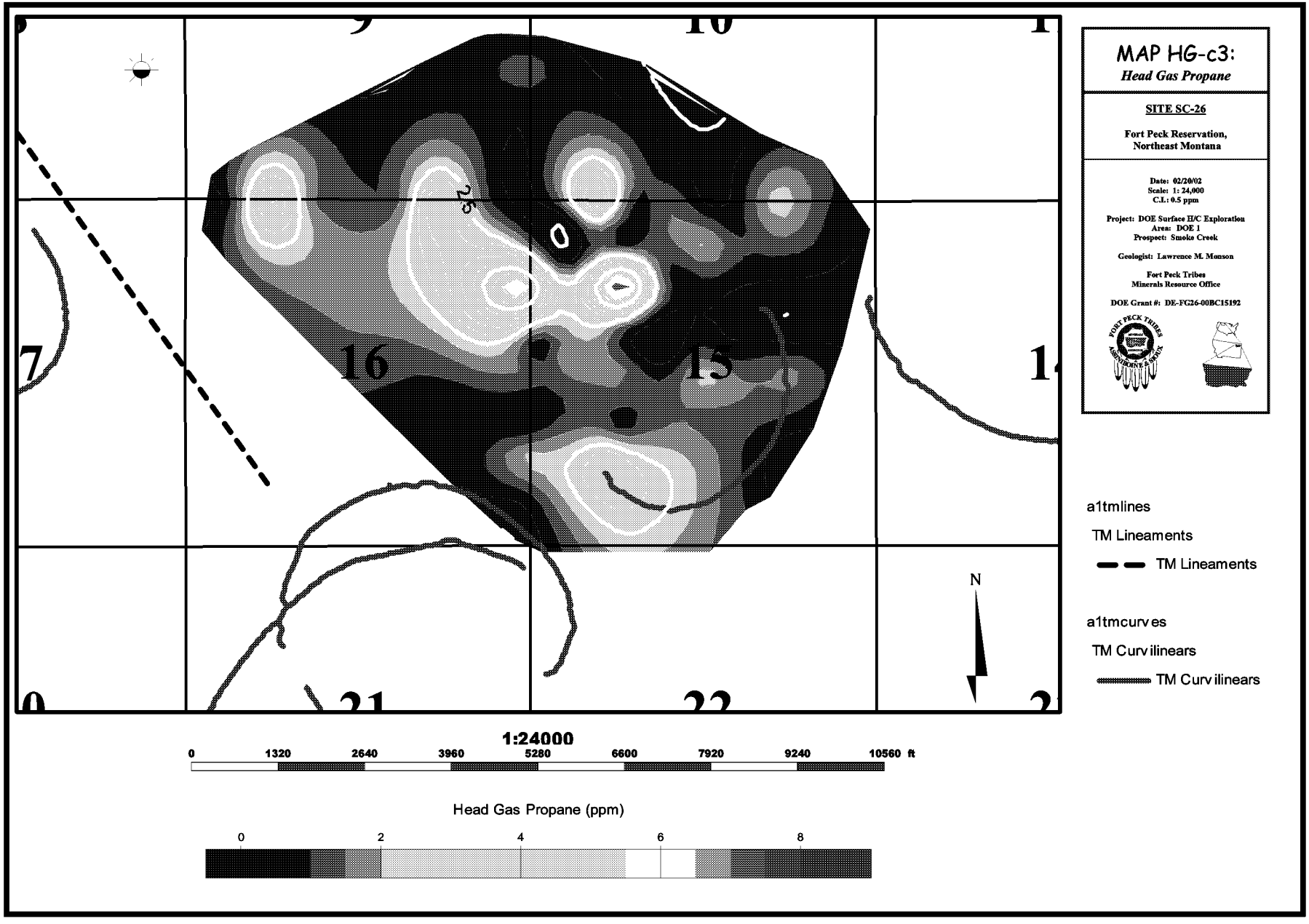
Site 26 HG-c1


MAP HG-c1:
Head Gas Methane
SITE SC-26
Fort Peck Reservation,
Northeast Montana
Date: 02/20/02
Scale: 1: 24,000
C.I.: 10 ppm
Project: DOE Surface H/C Exploration
Area: DOE 1
Prospect: Smoke Creek
Geologist: Lawrence M. Monson
Fort Peck Tribes
Minerals Resource Office
DOE Grant #: DE-FG26-00BC15192
FORT PECK TRIBES
ASSINIBOINE & SIOUX
a1tmlines
TM Lineaments
TM Lineaments
a1tmcurves
TM Curvilinears
TM Curvilinears
N
16
15
7
1:24000
0
1320
2640
3960
5280
6600
7920
9240
10560 ft
Head Gas Methane (ppm)
0
29
58
87
115

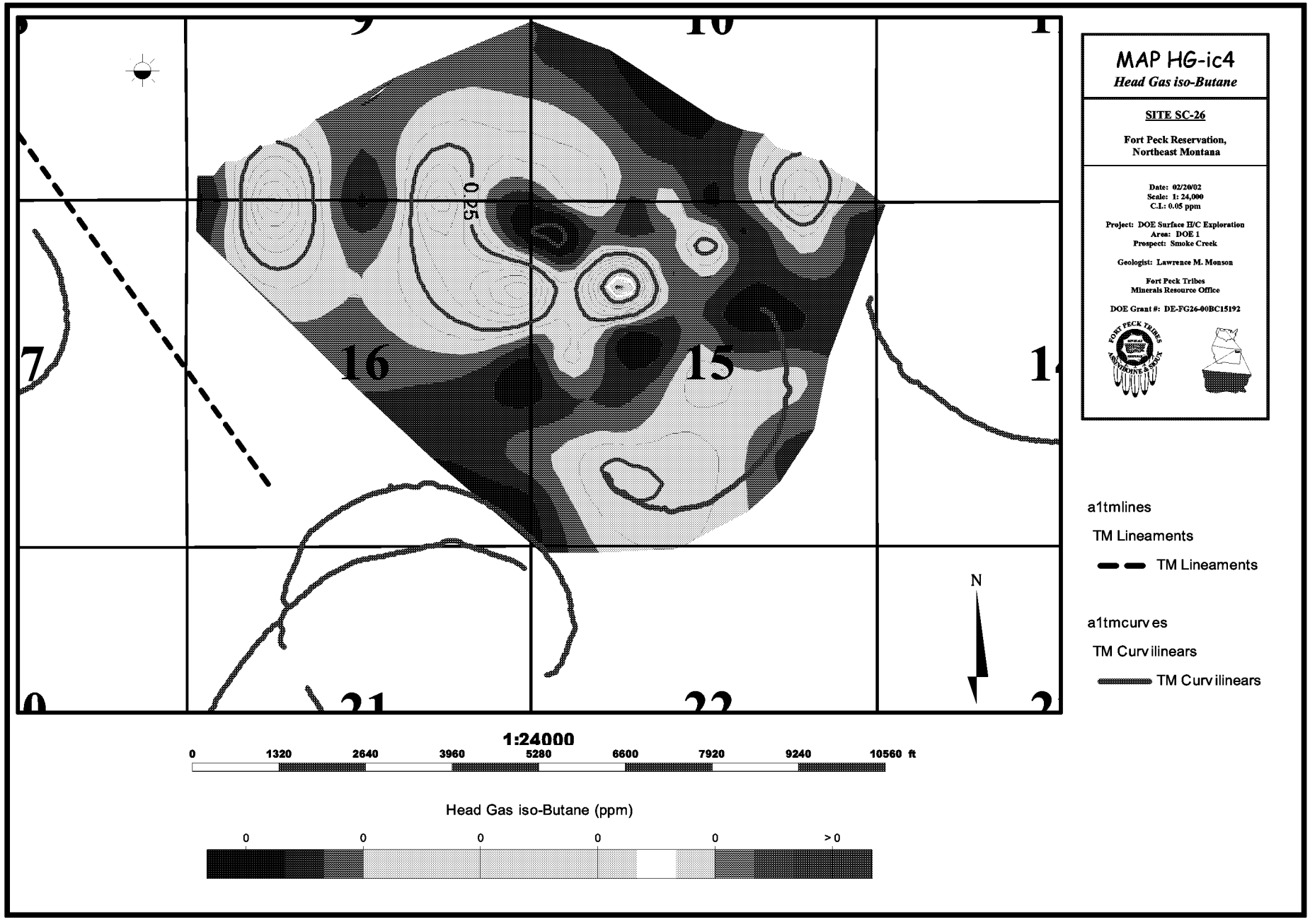
Site 26 HG-c2


MAP HG-c2:
Head Gas Ethane
SITE SC-26
Fort Peck Reservation,
Northeast Montana
Date: 02/20/02
Scale: 1: 24,000
C.I.: 1 ppm
Project: DOE Surface H/C Exploration
Area: DOE 1
Prospect: Smoke Creek
Geologist: Lawrence M. Monson
Fort Peck Tribes
Minerals Resource Office
DOE Grant #: DE-FG26-00BC15192
FORT PECK TRIBES
ASSINIBOINE & SIOUX
a1tmlines
TM Lineaments
TM Lineaments
a1tmcurves
TM Curvilinears
TM Curvilinears
N
1:24000
0 1320 2640 3960 5280 6600 7920 9240 10560 ft
Head Gas Ethane (ppm)
0 4 8 13 17 > 20

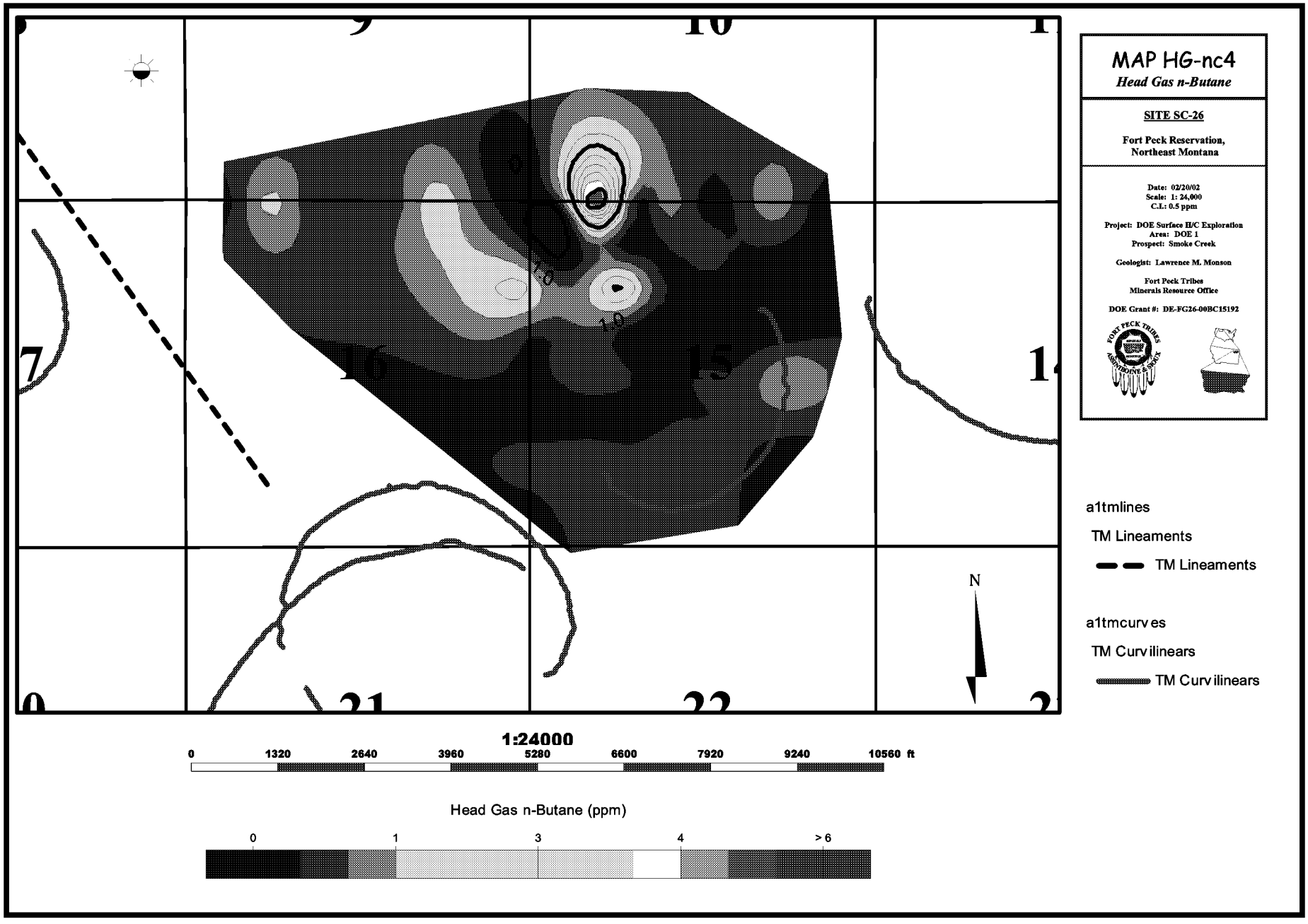
Site 26 HG-c3


MAP HG-c3:
Head Gas Propane
SITE SC-26
Fort Peck Reservation,
Northeast Montana
Date: 02/20/02
Scale: 1: 24,000
C.I.: 0.5 ppm
Project: DOE Surface H/C Exploration
Area: DOE 1
Prospect: Smoke Creek
Geologist: Lawrence M. Monson
Fort Peck Tribes
Minerals Resource Office
DOE Grant #: DE-FG26-00BC15192
FORT PECK TRIBES
ASSINIBOINE & SIOUX
a1tmlines
TM Lineaments
TM Lineaments
a1tmcurves
TM Curvilinears
TM Curvilinears
N
1:24000
0 1320 2640 3960 5280 6600 7920 9240 10560 ft
Head Gas Propane (ppm)
0 2 4 6 8

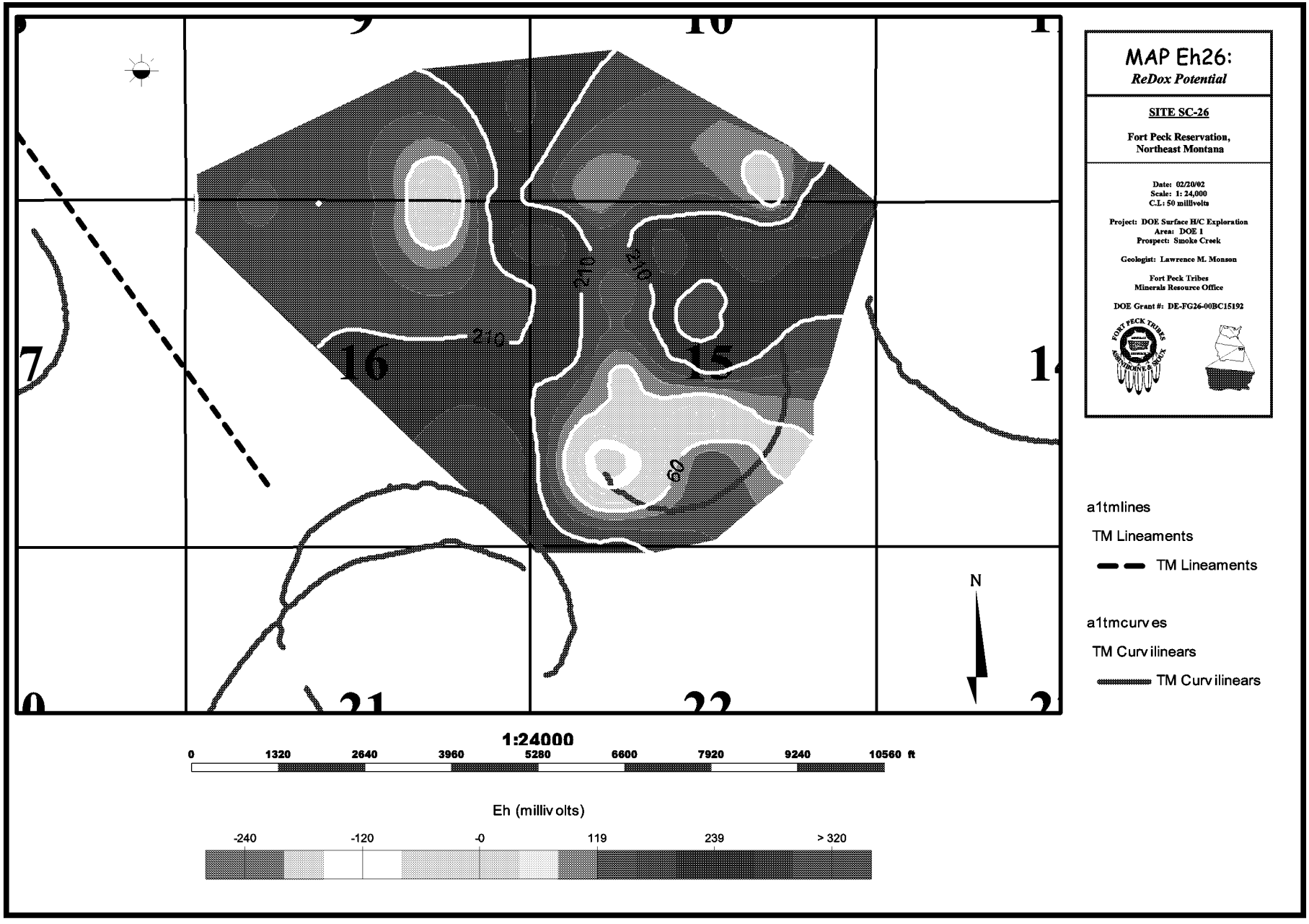
Site 26 HG-ic4



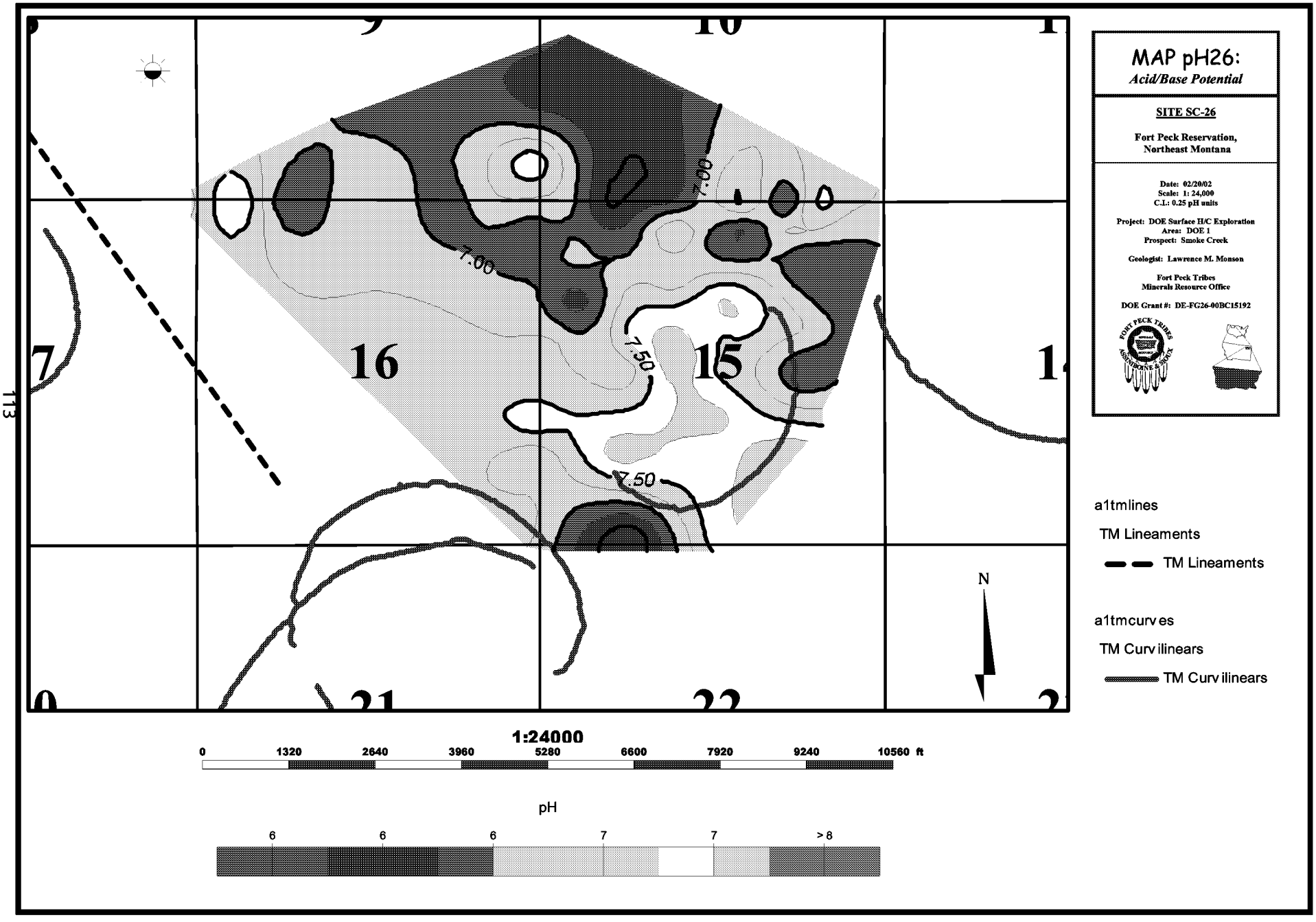
Site 26 HG-nc4



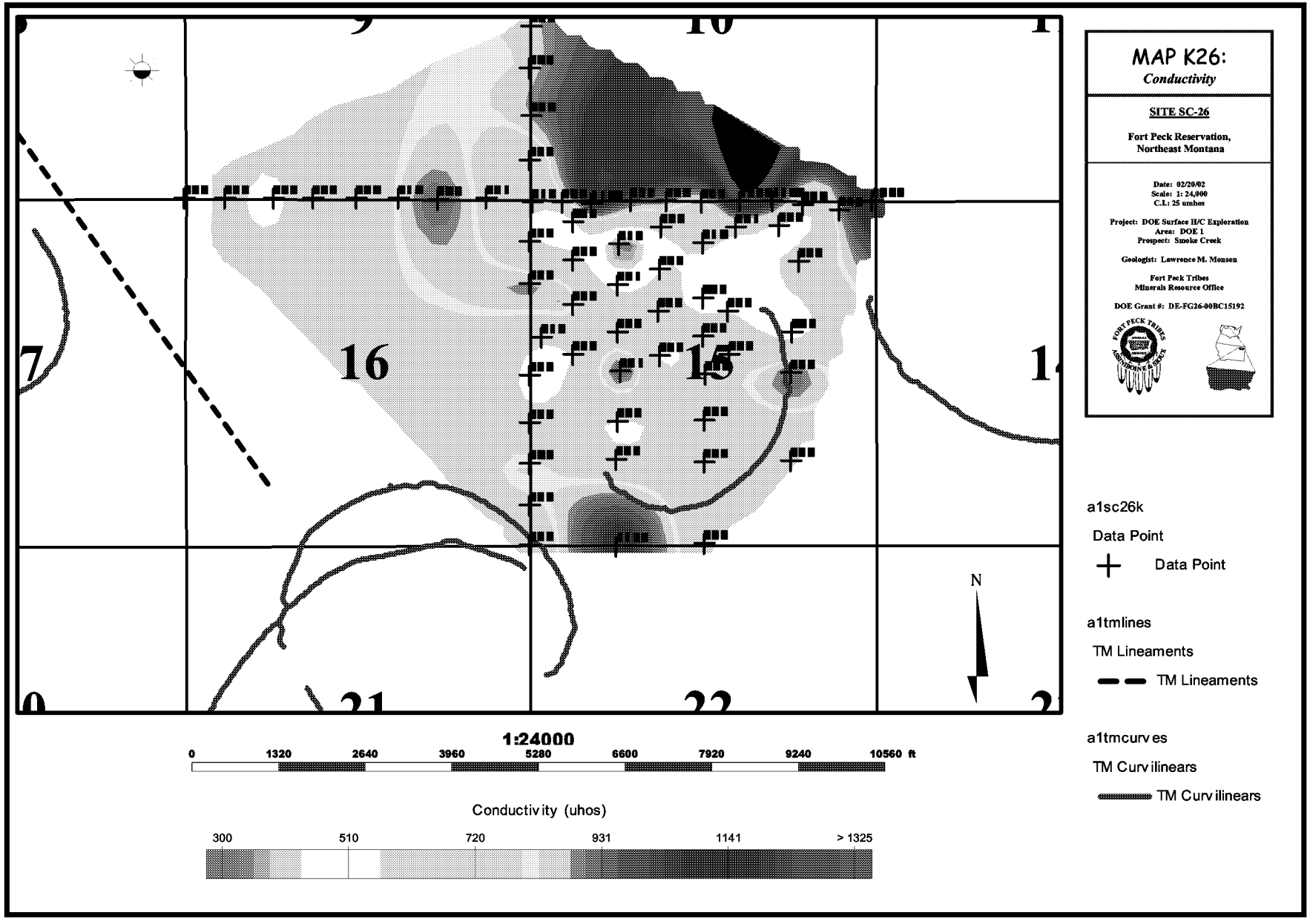
Site 26 Eh


MAP Eh26:
ReDox Potential
SITE SC-26
Fort Peck Reservation,
Northeast Montana
Date: 02/20/02
Scale: 1: 24,000
C.I.: 50 millivolts
Project: DOE Surface H/C Exploration
Area: DOE I
Prospect: Smoke Creek
Geologist: Lawrence M. Monson
Fort Peck Tribes
Minerals Resource Office
DOE Grant #: DE-FG26-00BC15192
FORT PECK TRIBES
ASSINIBOINE & SIOUX
a1tmlines
TM Lineaments
TM Lineaments
a1tmcurves
TM Curvilinears
TM Curvilinears
N
1:24000
0
1320
2640
3960
5280
6600
7920
9240
10560 ft
Eh (millivolts)
-240
-120
-0
119
239
> 320
210
210
210
60
16
15
7

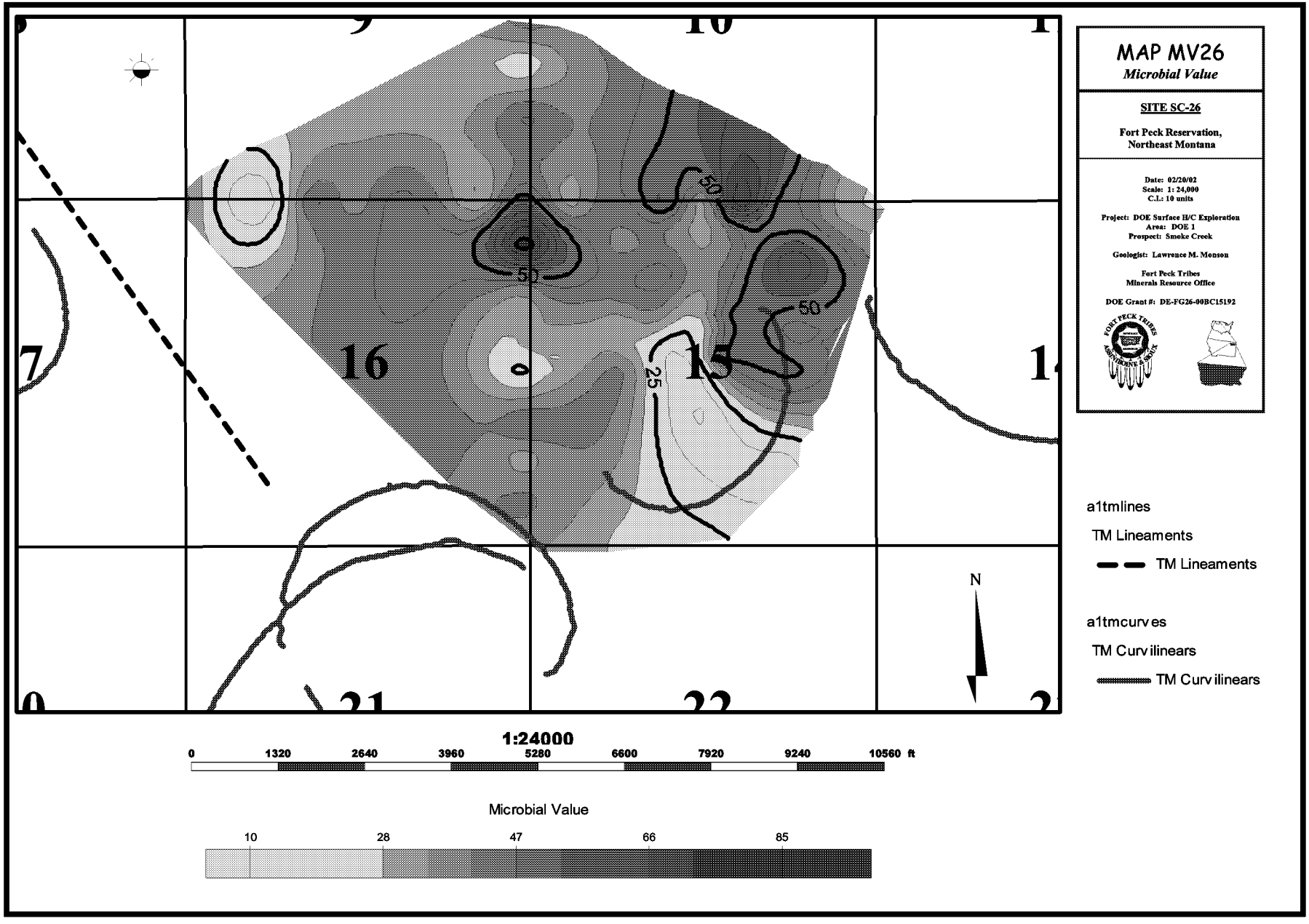
Site 26 Ph


MAP pH26:
Acid/Base Potential
SITE SC-26
Fort Peck Reservation,
Northeast Montana
Date: 02/20/02
Scale: 1: 24,000
C.I.: 0.25 pH units
Project: DOE Surface H/C Exploration
Area: DOE 1
Prospect: Smoke Creek
Geologist: Lawrence M. Monson
Fort Peck Tribes
Minerals Resource Office
DOE Grant #: DE-FG26-00BC15192
FORT PECK TRIBES
ASSINIBOINE & SIOUX
7.00
7.50
16
15
N
a1tmlines
TM Lineaments
TM Lineaments
a1tmcurves
TM Curvilinears
TM Curvilinears
1:24000
0
1320
2640
3960
5280
6600
7920
9240
10560 ft
pH
6
6
6
7
7
> 8

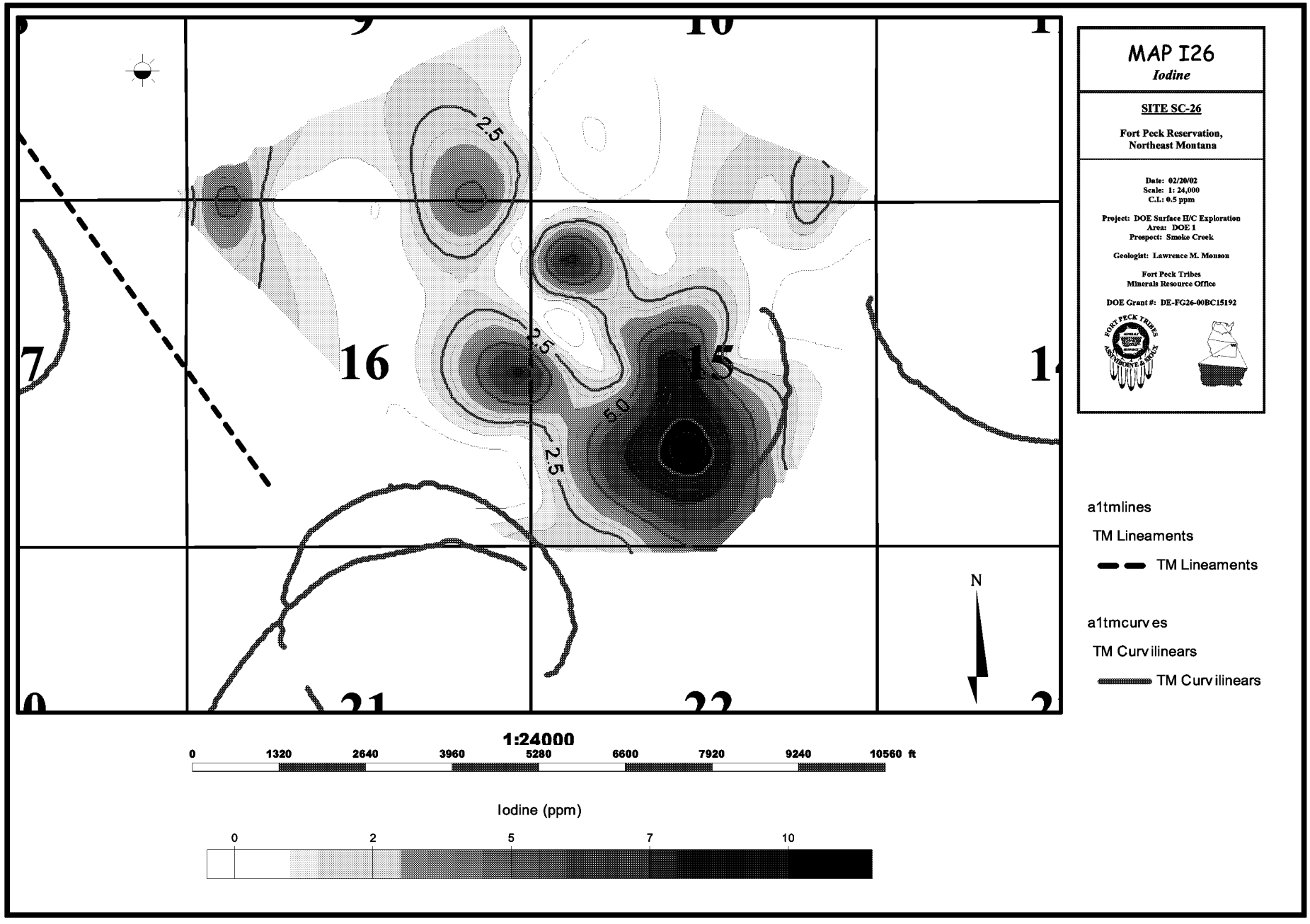
Site 26 K


MAP K26:
Conductivity
SITE SC-26
Fort Peck Reservation,
Northeast Montana
Date: 02/20/02
Scale: 1: 24,000
C.I.: 25 umhos
Project: DOE Surface H/C Exploration
Area: DOE 1
Prospect: Smoke Creek
Geologist: Lawrence M. Monson
Fort Peck Tribes
Minerals Resource Office
DOE Grant #: DE-FG26-00BC15192
FORT PECK TRIBES
ASSINIBOINE & SIOUX
16
15
N
a1sc26k
Data Point
Data Point
a1tmlines
TM Lineaments
TM Lineaments
a1tmcurves
TM Curvilinears
TM Curvilinears
1:24000
0
1320
2640
3960
5280
6600
7920
9240
10560 ft
Conductivity (uhos)
300
510
720
931
1141
> 1325

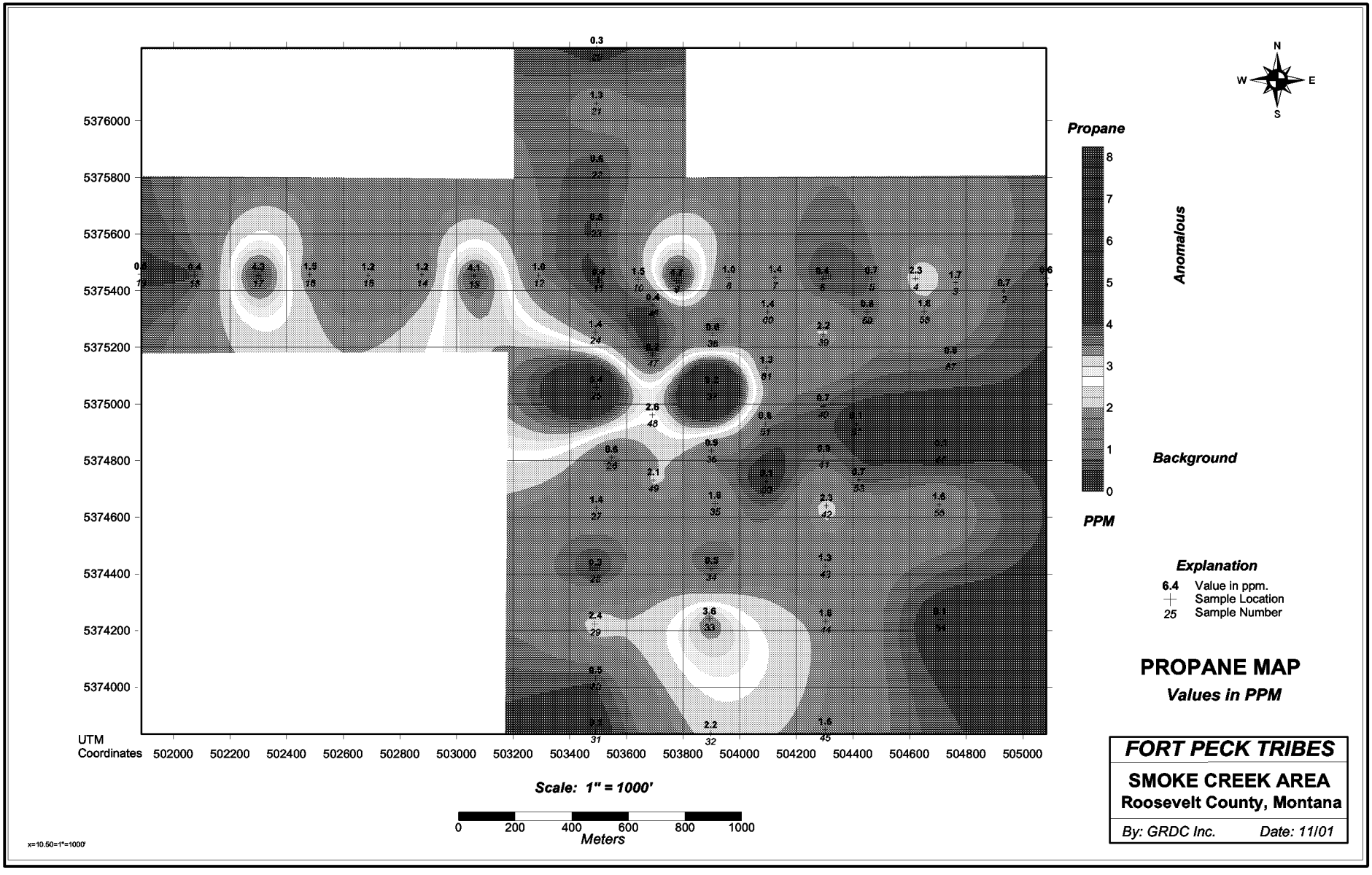
Site 26 Microbial



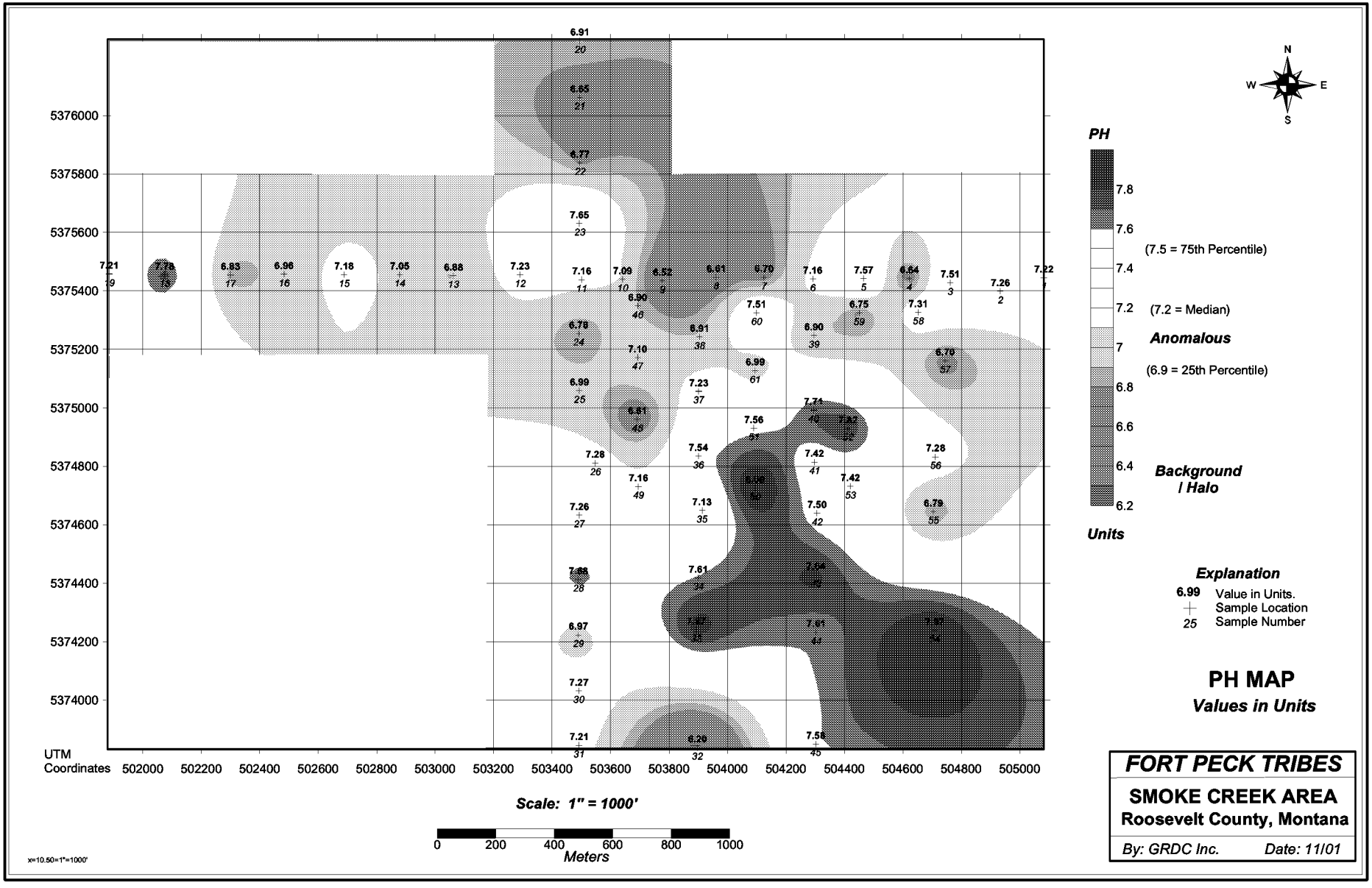
Site 26 Iodine



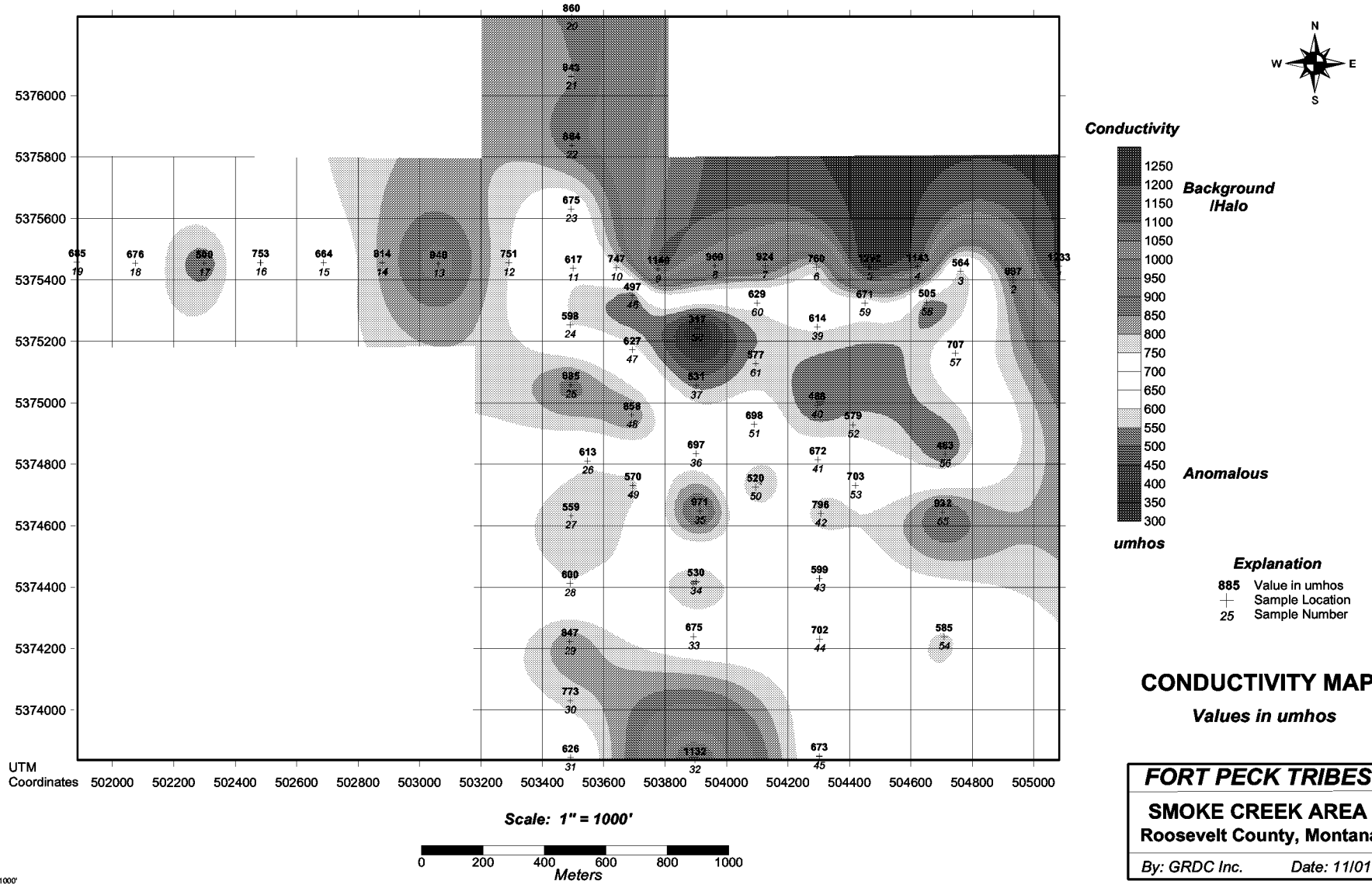
GRDC sc26 Methane



GRDC Sc26 Ph


PH
7.8
7.6
(7.5 = 75th Percentile)
7.4
7.2
(7.2 = Median)
Anomalous
7
(6.9 = 25th Percentile)
6.8
6.6
6.4
Background
/ Halo
6.2
Units
N
W
E
S
Explanation
6.99 Value in Units.
Sample Location
25 Sample Number
PH MAP
Values in Units
FORT PECK TRIBES
SMOKE CREEK AREA
Roosevelt County, Montana
By: GRDC Inc.
Date: 11/01
Scale: 1" = 1000'
0 200 400 600 800 1000
Meters
UTM Coordinates
502000 502200 502400 502600 502800 503000 503200 503400 503600 503800 504000 504200 504400 504600 504800 505000
5376000 5375800 5375600 5375400 5375200 5375000 5374800 5374600 5374400 5374200 5374000
x=10.50=1"=1000'

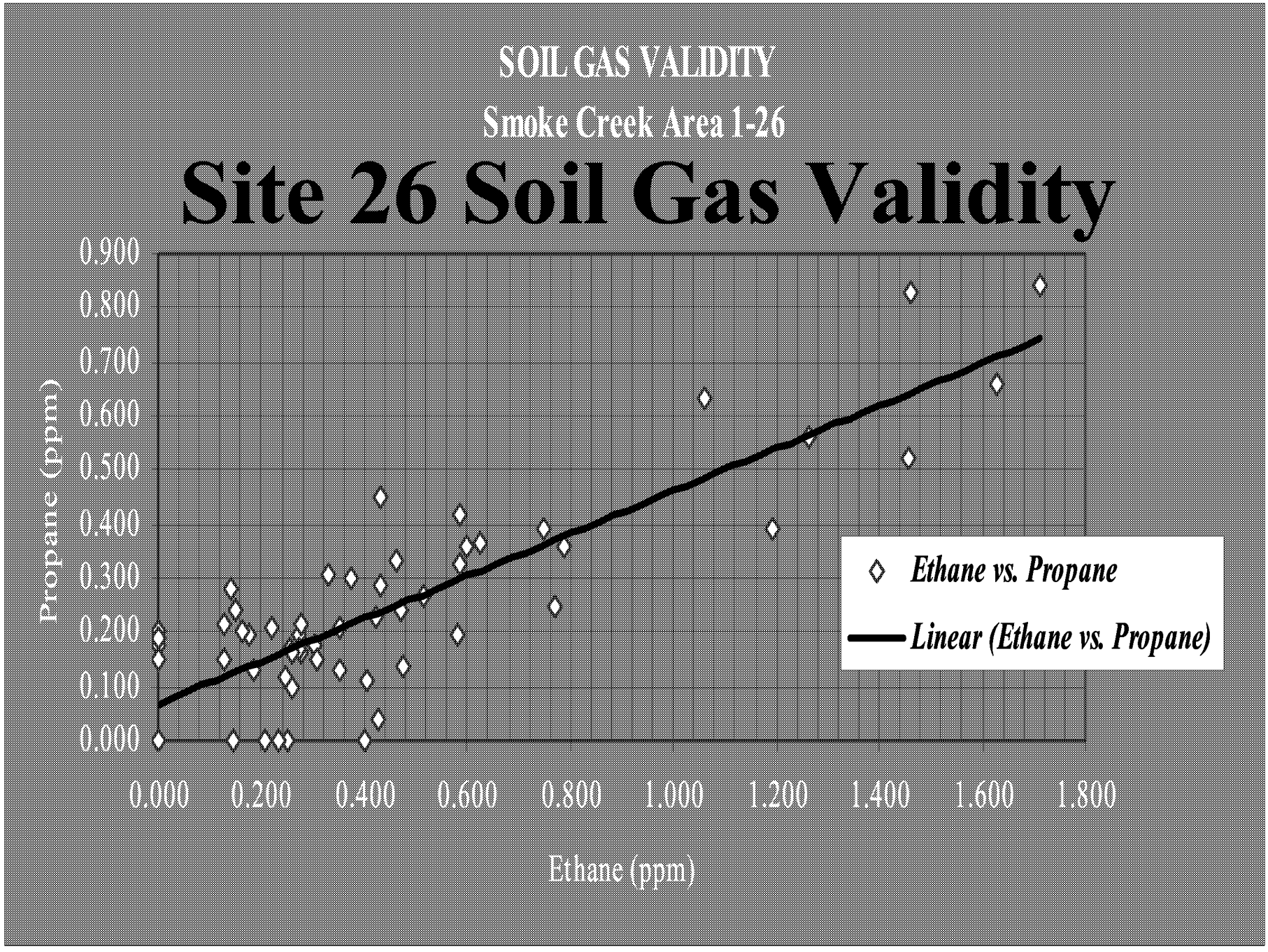
GRDC Sc26 K



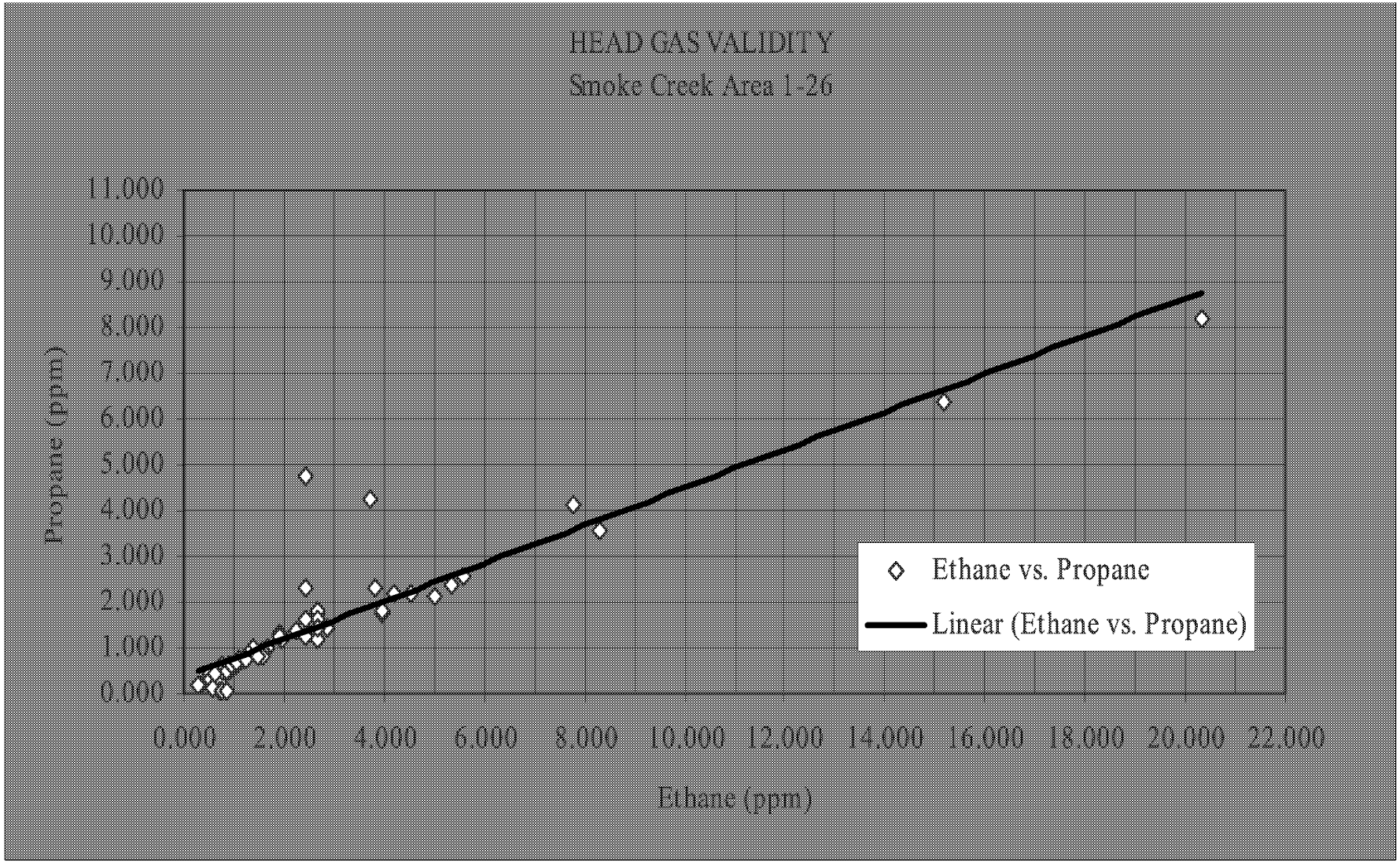
CONDUCTIVITY MAP

Values in umhos

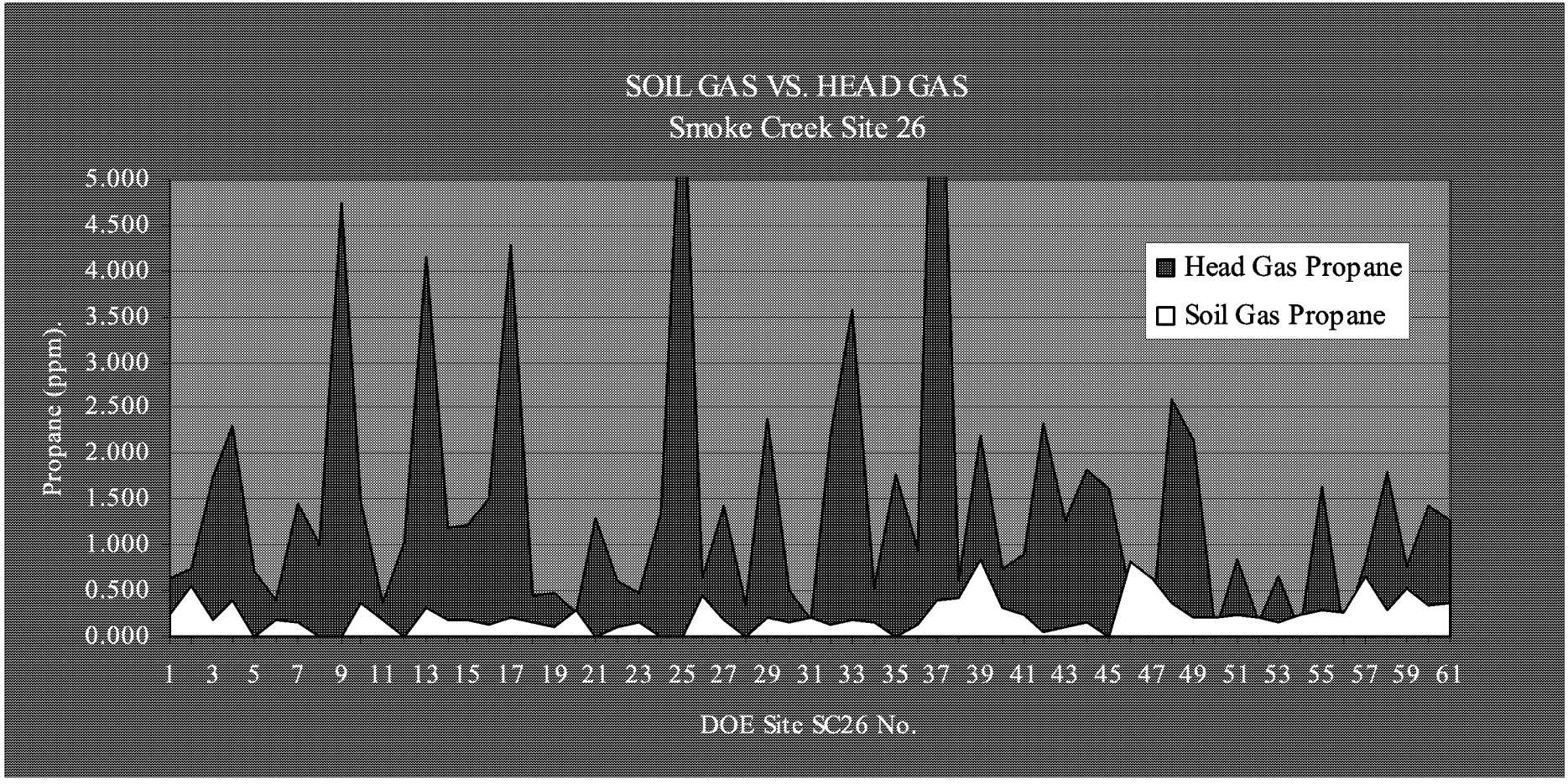
FORT PECK TRIBES	
SMOKE CREEK AREA	
Roosevelt County, Montana	
By: GRDC Inc.	*Date: 11/01*


SOIL GAS VALIDITY
Smoke Creek Area 1-26
Site 26 Soil Gas Validity
Propane (ppm)
0.900
0.800
0.700
0.600
0.500
0.400
0.300
0.200
0.100
0.000
0.000
0.200
0.400
0.600
0.800
1.000
1.200
1.400
1.600
1.800
Ethane (ppm)
Ethane vs. Propane
Linear (Ethane vs. Propane)

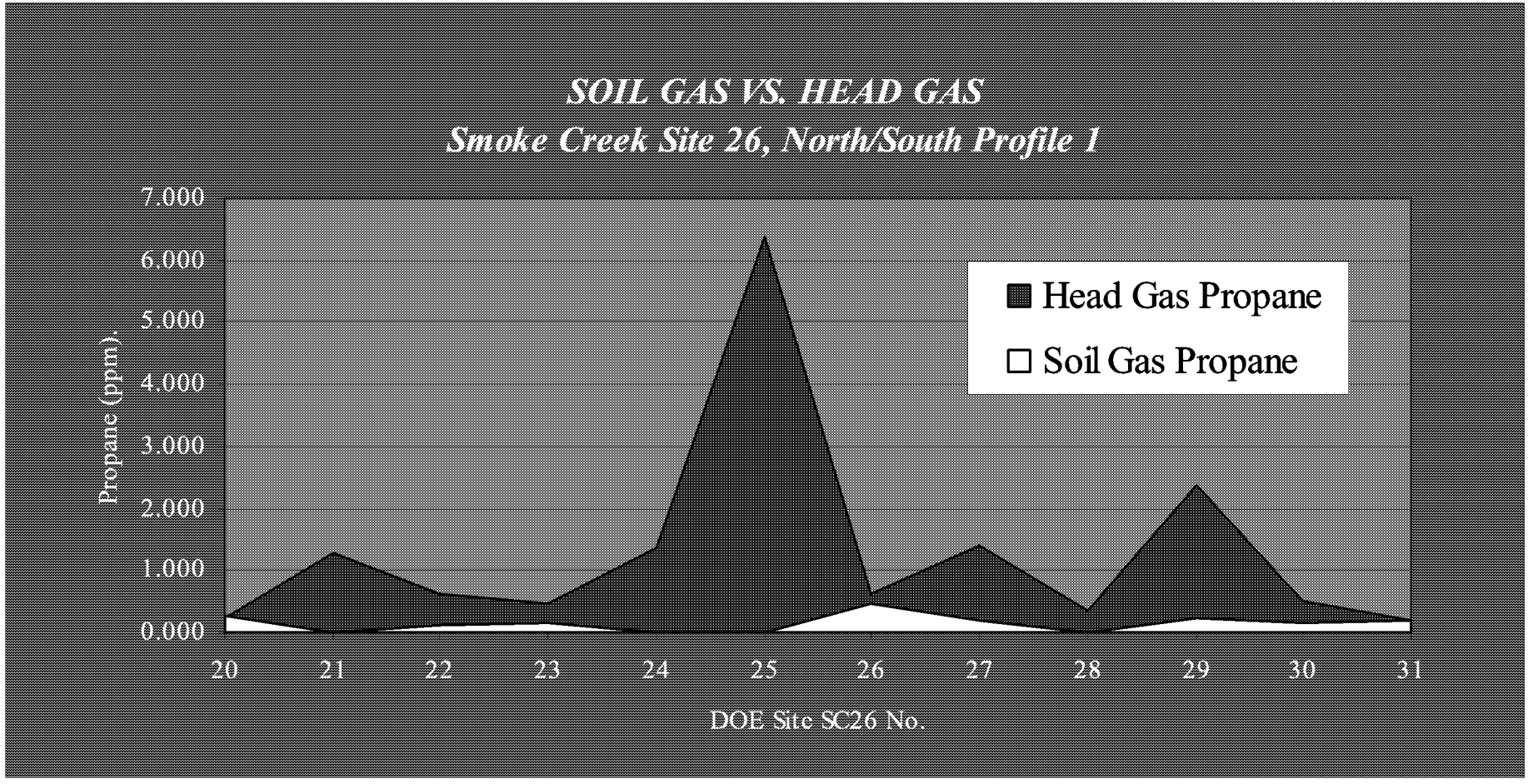
Site 26 Head Gas Validity



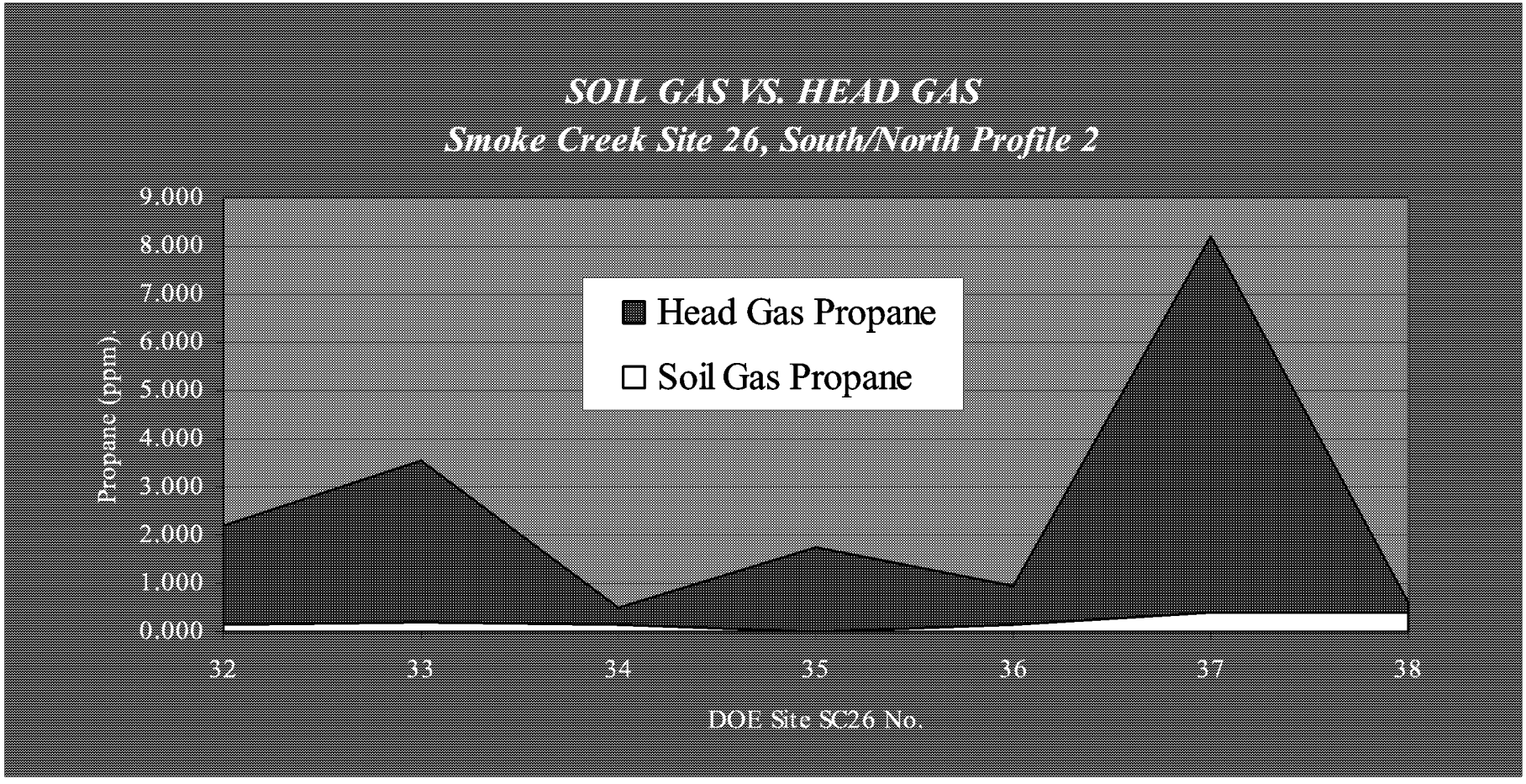
Site 26 Propane Comparison



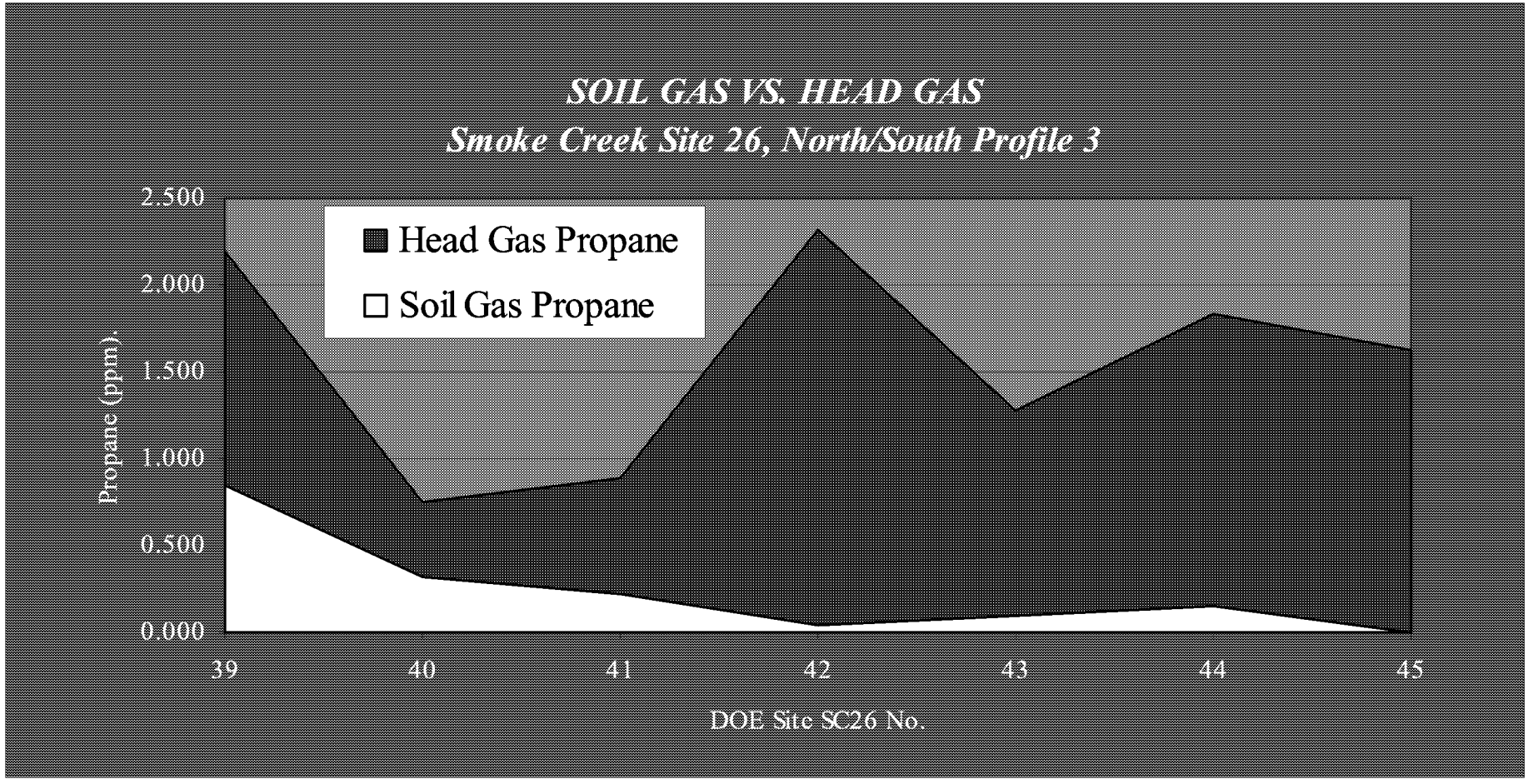
Site 26 N/S C3 Profile 1



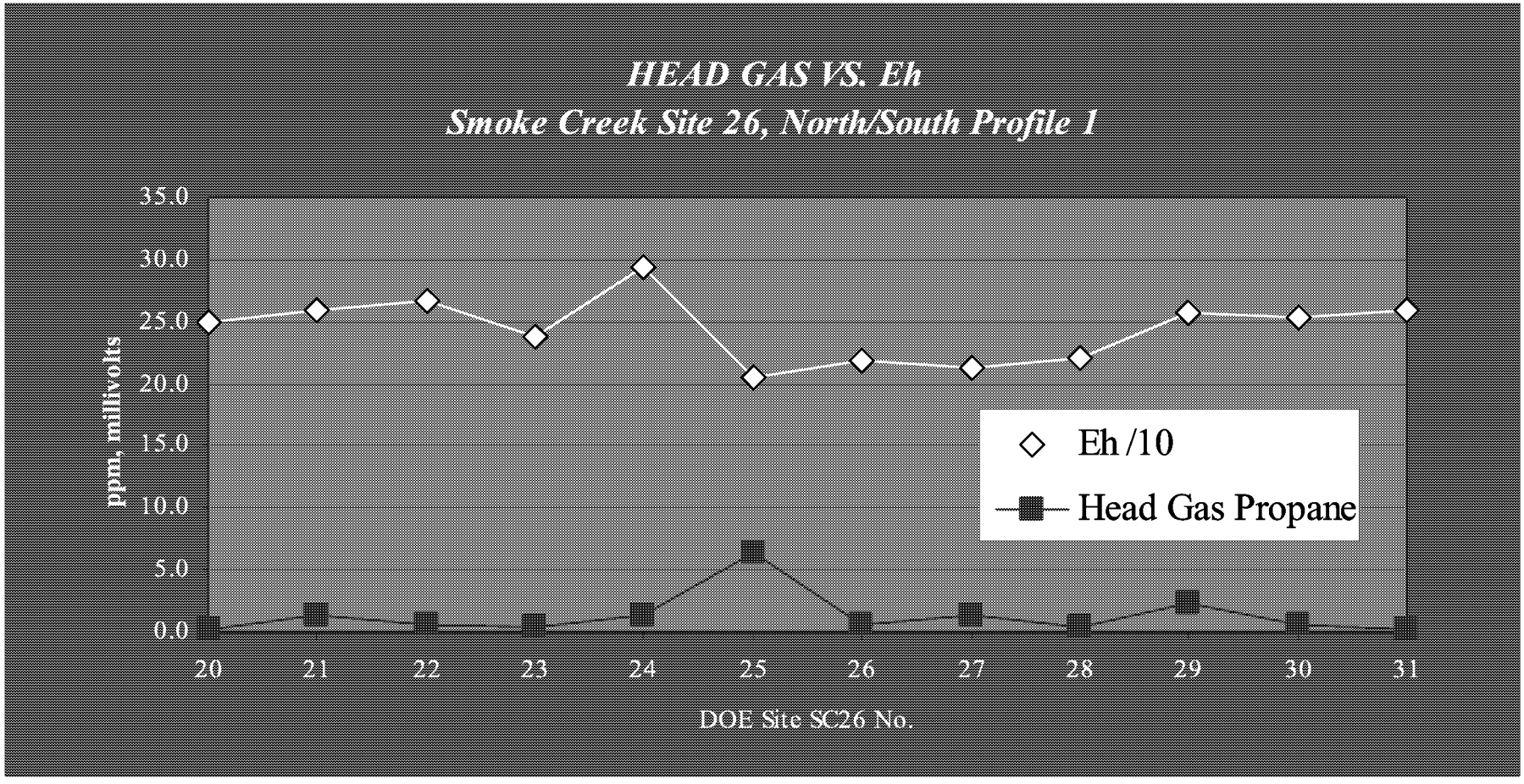
Site 26 N/S C3 Profile 2



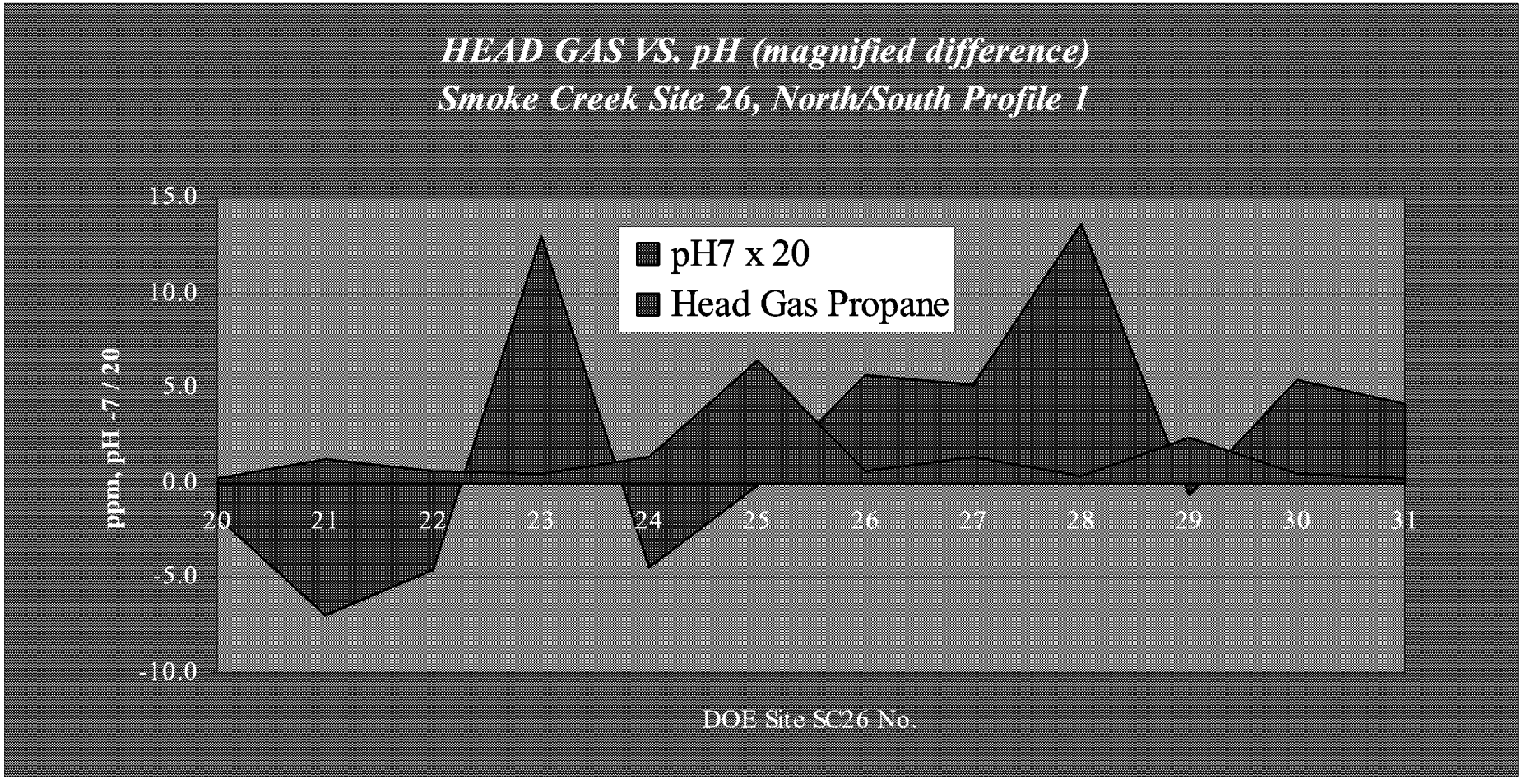
Site 26 N/S C3 Profile 3



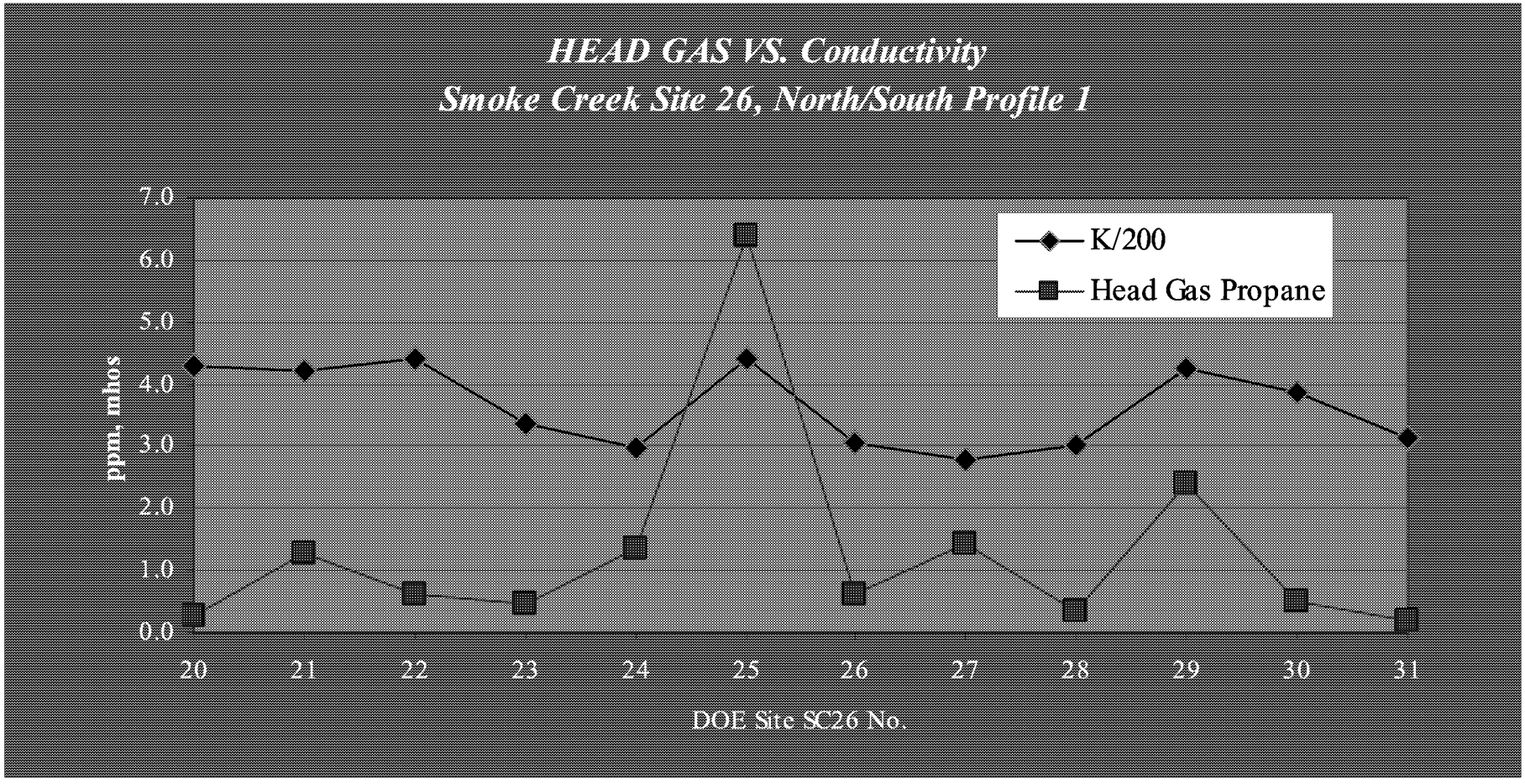
Site 26 N/S C3 vs. Eh Profile 1



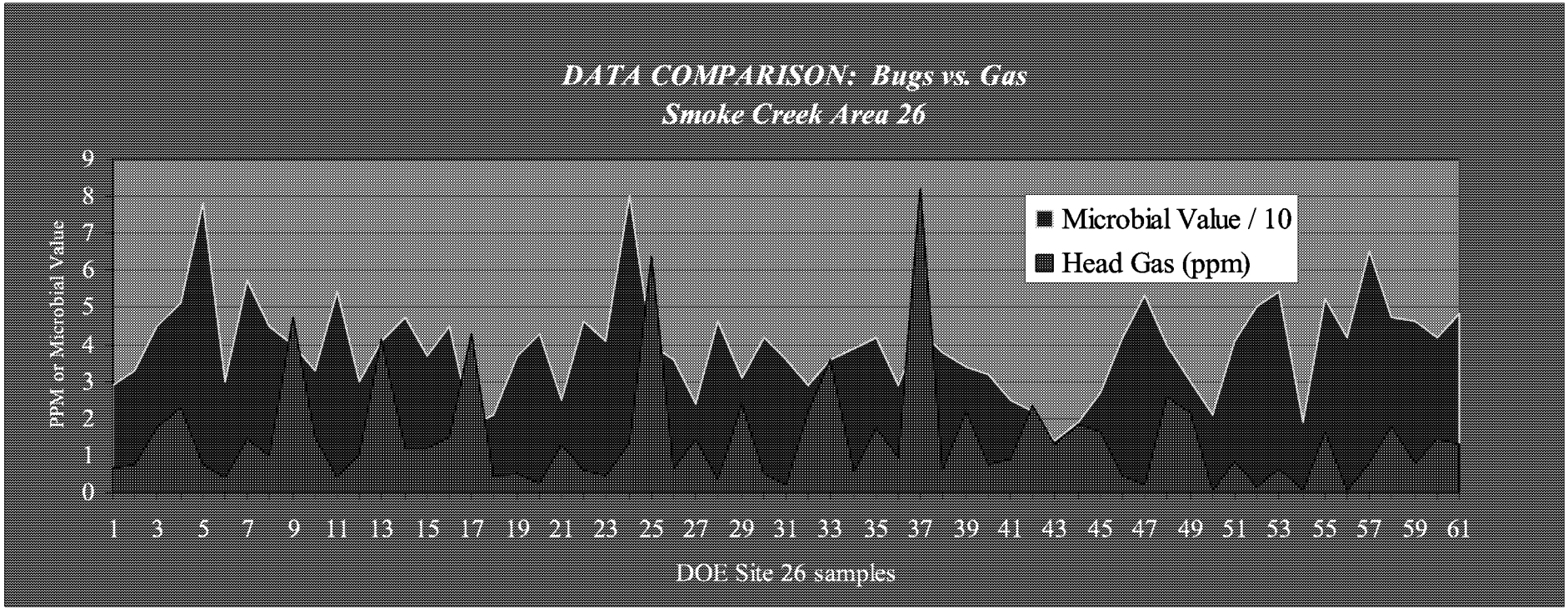
Site 26 N/S C3 vs. pH Profile 1



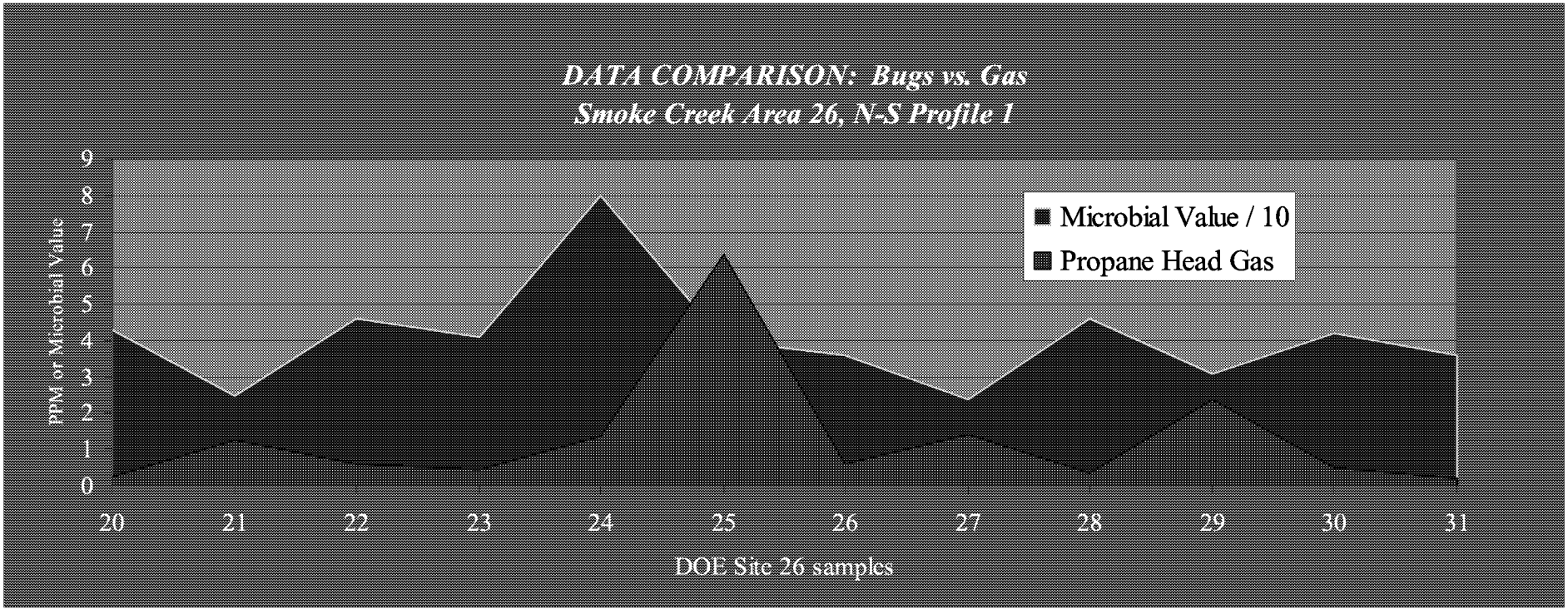
Site 26 N/S C3 vs. K Profile 1



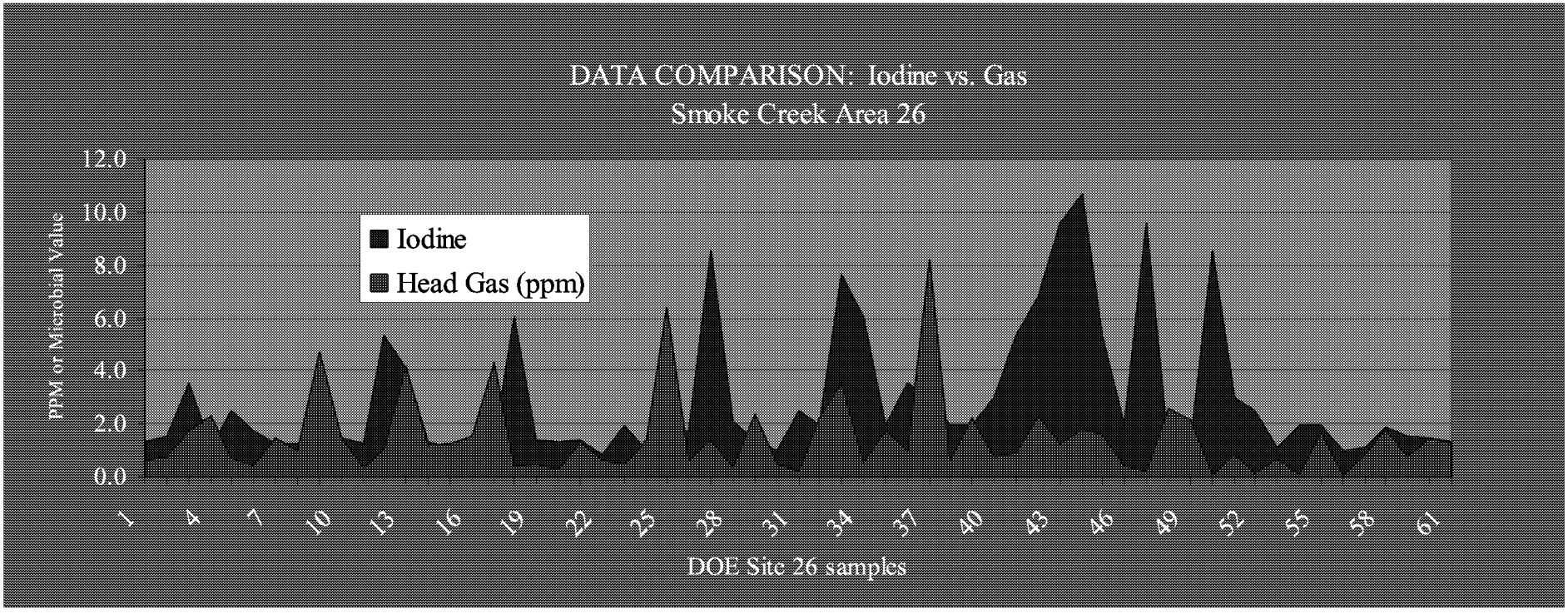
Site 26 C3 vs. Microbial Value



Site 26 N/S C3 vs. Microbial Value Profile 1



Site 26 C3 vs. Iodine



Site 26 N/S C3 vs. Iodine Profile 1

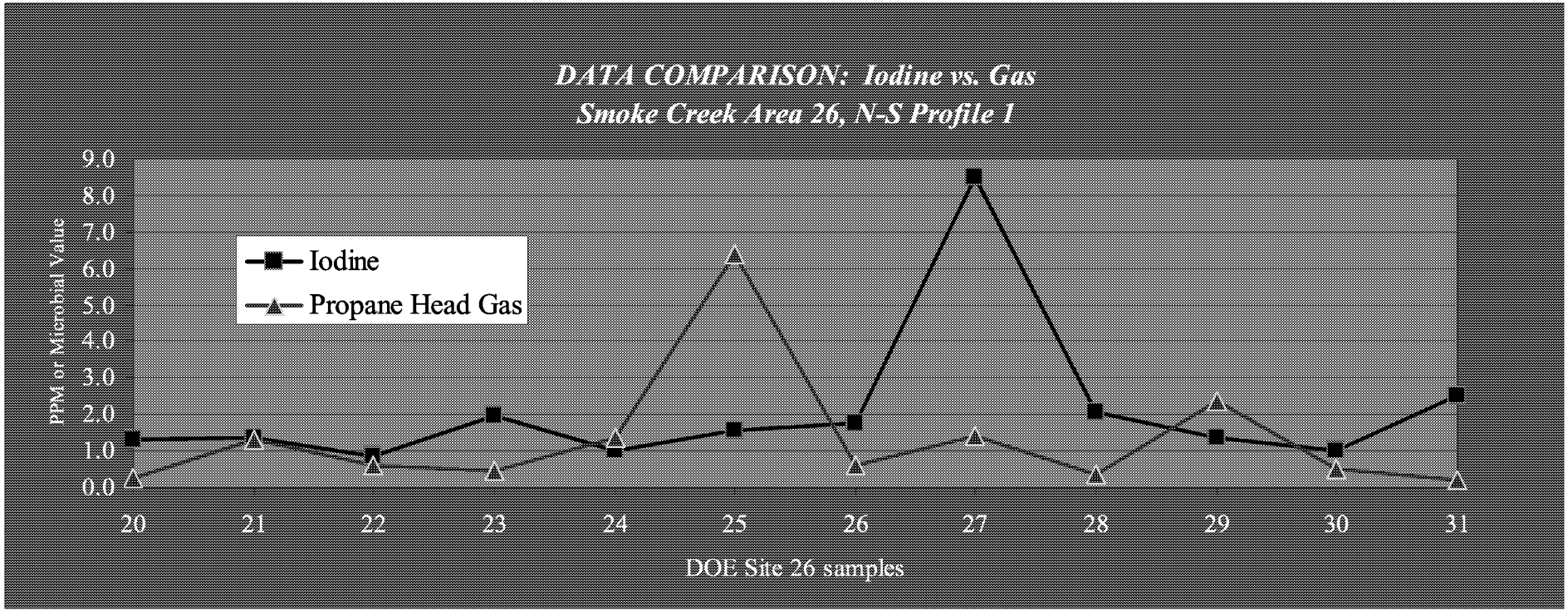


TABLE 3A

sccoregps	TABLE 3A: DOE AREA 1, SMOKE CREEK CORE SITES - SAMPLE LOCATIONS										
DOESITENO	VEGETATION	SLOPE	SOIL	MOISTURE	AIRTEMP	BAROMETER	LATITUDE	LONGITUDE	DEPTH	DRAW	WEATHER
			at probe/auger depth		F	psi	utm-y	utm-x	probe/auger	cc	
SC-1091	stubble	flat	silt	dry	60.0	28.9	5364701.7406	514735.76679047	3632	1.0	sunny
SC-1092	stubble	flat	silt	dry	60.0	28.9	5364359.7354	514744.29335802	3636	0.2	sunny
SC-621	summerfallow	flat	loam	damp	60.0	28.1	5364021.500	516930.094	3636	0.8	partly overcast
SC-622	summerfallow	flat	loam	damp	60.0	28.1	5364023.000	516598.594	3436	0.6	sunny
SC-623	grass	gentle	silt	dry	58.0	27.9	5363965.500	516187.594	2531	0.0	partly overcast
SC-624	grass	steep	silt	dry	55.0	27.8	5364056.9647	516023.54218859	2531	0.4	partly overcast
SC-625	grass	gentle	silt	dry	64.0	27.8	5364219.2260	515801.04025193	3136	0.8	partly overcast
SC-626	grass	flat	silt	dry	56.0	28.2	5364358.6527	515612.24669901	3837	0.0	partly overcast
SC-627	grass	gentle	silt	dry	54.0	27.7	5364668.8757	515562.55110263	2536	0.0	partly overcast
SC-628	grass	gentle	silt	dry	55.0	27.7	5364867.7571	515320.45601813	3333	0.0	cloudy
SC-629	grass	flat	silt	dry	55.0	27.7	5365003.7009	514937.96746098	2836	0.8	cloudy
SC-630	stubble	gentle	silt	dry	60.0	28.9	5365036.5928	514628.03518758	3336	0.1	partly overcast
SC-631	stubble	flat	silt	dry	60.0	28.9	5365032.7633	514298.07441182	3336	0.0	partly overcast
SC-632	summerfallow	flat	loam	damp	60.0	28.9	5365032.7651	514047.65857790	3636	2.7	partly overcast
SC-633	stubble	flat	silt	dry	60.0	28.9	5365086.8426	513683.21555408	3636	0.5	partly overcast
SC-634	stubble	flat	silt	dry	60.0	28.1	5365157.3362	513441.83387839	2525	0.0	partly overcast
SC-635	stubble	flat	silt	wet	60.0	28.1	5365106.0240	513120.74377733	3436	0.1	partly overcast
SC-636	summerfallow	gentle	sand	damp	60.0	28.1	5365410.1787	513119.08067278	3836	0.0	cloudy
SC-637	summerfallow	flat	loam	damp	60.0	28.4	5365754.9952	513116.42273192	3940	0.2	cloudy
SC-638	summerfallow	flat	loam	damp	59.0	28.4	5365810.2737	512827.95090087	3736	0.0	partly overcast
SC-639	summerfallow	flat	loam	damp	59.0	28.4	5365817.4103	512535.69933639	3236	0.1	cloudy
SC-640	summerfallow	gentle	loam	damp	59.0	28.4	5365818.1974	512100.69743226	3636	2.2	cloudy
SC-641	summerfallow	flat	sand	damp	59.0	28.4	5365805.4778	511606.98391333	3636	0.0	cloudy
SC-642	weeds	flat	silt	dry	56.0	27.7	5365810.5560	511116.82106674	3336	0.0	partly overcast

TABLE 3B

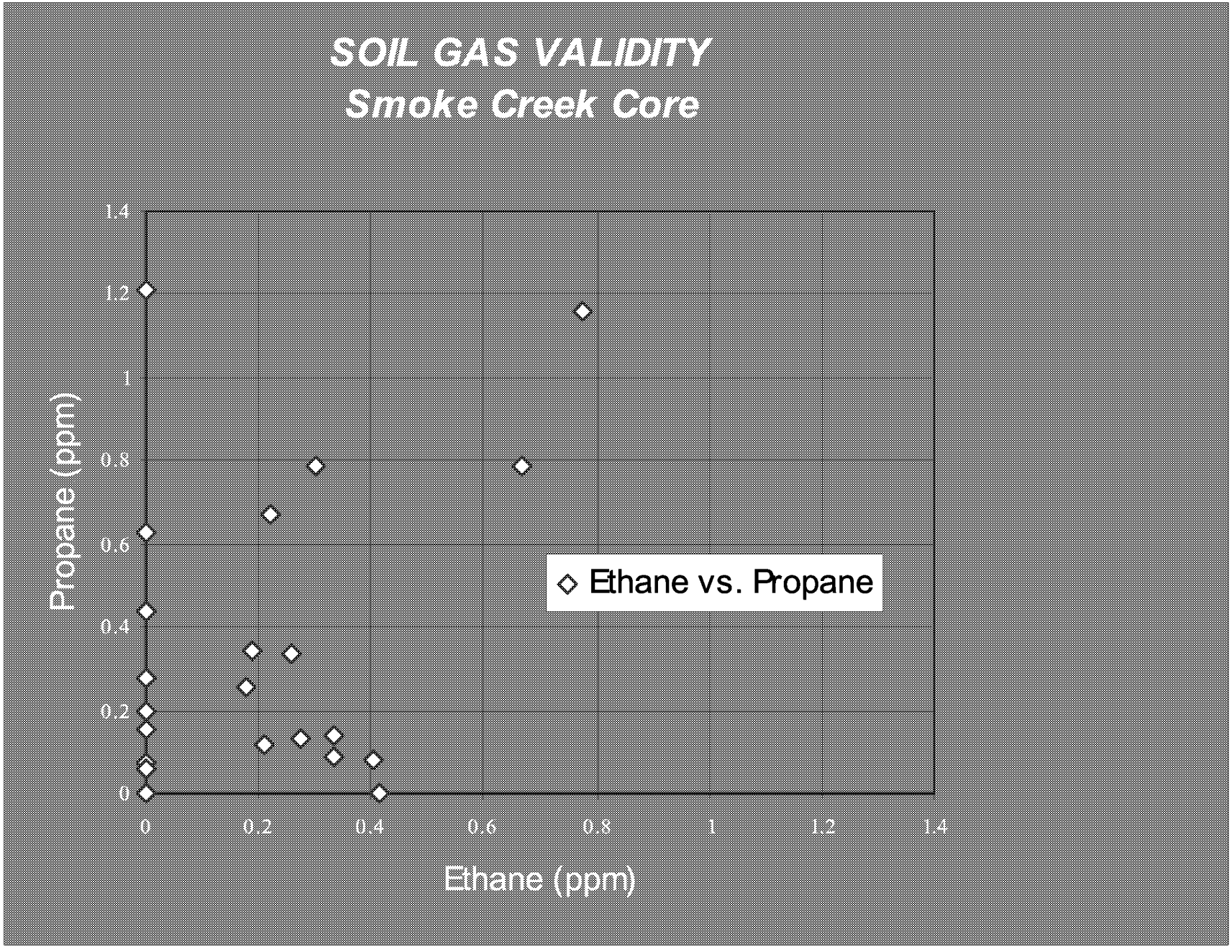
sccoredata	TABLE 3B: DOE AREA 1 SMOKE CREEK CORE SITES, GAS DATA													
DOESITENO	Soil Gas	(ppm)					Head Gas	(ppm)						
	c1	c2	c3	ic4	nc4		METHANE	ETHANE	ETHENE	PROPANE	PROPENE	i-BUTANE	n-BUTANE	i-PENTANE
SC-1091	10.179	0.669	0.788	0.234	0.254		3.916	0.444	0.624	0.270	0.133	0.037	0.113	0.041
SC-1092	10.474	0.000	1.208	0.040	1.025		6.285	0.383	0.487	0.110	0.125	0.025	0.504	0.010
SC-621	7.120	0.187	0.341	0.099	0.198		7.870	1.014	0.594	0.463	0.115	0.064	0.074	0.014
SC-622	7.221	0.405	0.080	0.332	0.116		7.521	1.028	1.347	0.668	0.018	0.058	0.410	0.000
SC-623	8.555	0.000	0.000	0.180	0.000		7.181	0.542	0.822	0.238	0.105	0.014	0.262	0.053
SC-624	8.554	0.000	0.437	0.076	0.148		47.870	7.458	7.921	3.181	0.110	0.261	1.309	0.230
SC-625	8.374	0.000	0.000	0.165	0.078		10.735	1.042	1.142	0.571	0.103	0.036	0.252	0.000
SC-626	5.729	0.273	0.132	0.079	0.105		13.193	0.941	3.250	0.453	0.013	0.051	0.677	0.103
SC-627	6.745	0.000	0.070	0.191	0.105		6.998	0.446	0.542	0.031	0.139	0.024	0.229	0.039
SC-628	6.274	0.208	0.115	0.109	0.654		20.373	1.440	2.964	0.685	0.036	0.069	0.748	0.016
SC-629	5.786	0.300	0.788	0.000	0.126		17.129	0.613	3.912	0.211	0.070	0.103	0.565	0.112
SC-630	9.973	0.000	0.624	0.177	0.352		12.935	1.279	1.018	0.205	0.037	0.057	0.593	0.108
SC-631	8.861	0.778	1.159	0.121	1.328		6.185	0.366	2.164	0.185	0.106	0.006	0.330	0.048
SC-632	11.398	0.000	0.279	0.153	0.083		20.864	3.023	1.595	1.318	0.114	0.084	0.404	0.105
SC-633	8.022	0.222	0.673	0.156	0.380		4.650	0.448	0.301	0.147	0.106	0.041	0.225	0.022
SC-634	11.815	0.000	0.000	0.000	0.223		11.511	0.958	0.973	0.622	0.153	0.089	0.137	0.000
SC-635	8.769	0.417	0.000	0.194	0.035		8.802	0.977	1.026	0.585	0.048	0.046	0.478	0.043
SC-636	6.930	0.334	0.086	0.387	0.137		3.859	0.330	0.135	0.186	0.040	0.020	0.050	0.000
SC-637	12.781	0.000	0.056	0.204	0.165		7.964	0.771	0.370	0.516	0.110	0.039	0.092	0.029
SC-638	9.057	0.000	0.155	0.316	0.087		18.914	2.292	1.452	0.959	0.108	0.131	0.317	0.157
SC-639	6.026	0.178	0.256	0.154	0.201		27.109	2.751	4.839	1.423	0.063	0.149	0.612	0.180
SC-640	7.185	0.258	0.339	0.295	0.120		16.543	2.231	1.250	1.133	0.135	0.161	0.455	0.137
SC-641	3.033	0.000	0.198	0.000	0.115		11.828	0.744	0.432	0.354	0.162	0.022	0.302	0.055
SC-642	6.218	0.336	0.135	0.316	0.209		9.721	1.029	3.980	0.881	0.084	0.049	0.558	0.283
MIN	3.033	0.000	0.000	0.000	0.000		3.859	0.330	0.135	0.031	0.013	0.006	0.050	0.000
MAX	12.781	0.778	1.208	0.387	1.328		47.870	7.458	7.921	3.181	0.162	0.261	1.309	0.283
MEAN	8.128	0.190	0.330	0.166	0.260		12.915	1.356	1.798	0.641	0.093	0.068	0.404	0.074
STDEV	2.247	0.222	0.360	0.108	0.316		9.582	1.502	1.848	0.662	0.043	0.058	0.278	0.077
ANOMALY (1.5)	12.192	0.285	0.495	0.249	0.390		19.372	2.034	2.696	0.962	0.140	0.102	0.606	0.112

TABLE 3C

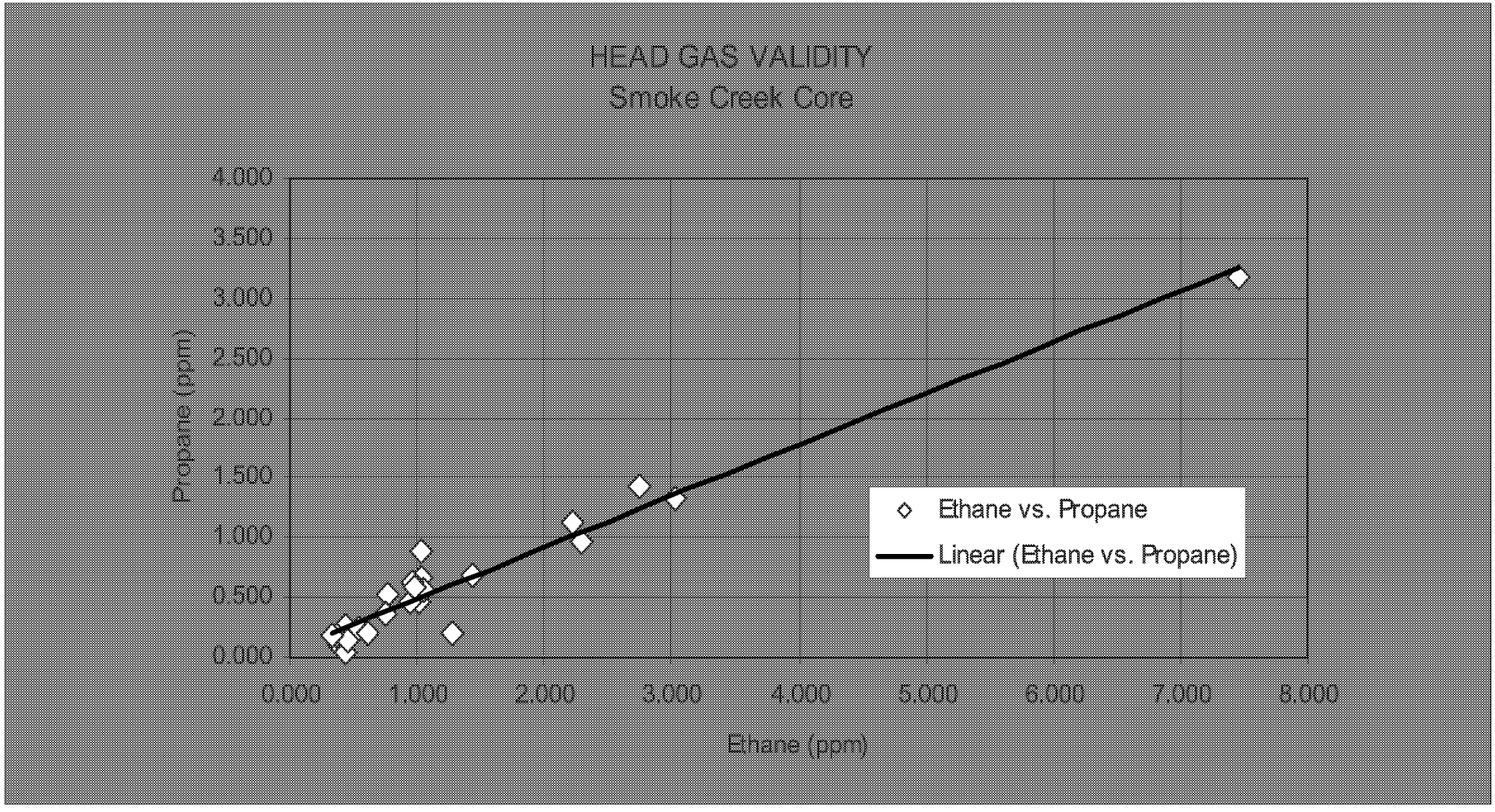
TABLE 3C: DOE AREA 1 SMOKE CREEK CORE SITES, N0N-GAS DATA

DOESITENO					Microbial			Iodine		Magnetic Susceptibility	
	EH	PH	COND		**MV**	**SMV**	MV / 10	(ppm)		(cgs units)	
SC-1091	274.2	7.16	870		54	55	5.4	6.0		1.67	
SC-1092	258.4	7.64	649		95	67	9.5	2.5		0.89	
SC-621	201.3	7.77	540		45	44	4.5	4.1		1.47	
SC-622	-52.1	7.42	683		44	42	4.4	1.6		0.84	
SC-623	7.8	7.81	778		39	39	3.9	9.5		0.93	
SC-624	173	6.76	1165		29	37	2.9	1.6		1.62	
SC-625	193	7.59	647		40	39	4	9.5		0.84	
SC-626	225.2	7.33	861		43	44	4.3	2.5		1.05	
SC-627	63.9	7.93	667		52	51	5.2	8.5		1.22	
SC-628	185.2	7.28	739		58	52	5.8	6.8		0.71	
SC-629	245.3	6.85	1134		61	48	6.1	1.8		0.97	
SC-630	-55.9	7.59	624		22	43	2.2	6.8		1.66	
SC-631	169.3	7.23	1025		41	41	4.1	0.8		0.80	
SC-632	206.7	7.37	538		60	40	6	1.1		1.22	
SC-633	-94.9	7.79	642		20	37	2	1.2		1.41	
SC-634	152.3	7.33	602		39	34	3.9	1.8		2.05	
SC-635	68.6	7.76	696		37	32	3.7	1.3		1.08	
SC-636	165.3	7.73	315		19	33	1.9	5.3		2.47	
SC-637	187.1	7.6	506		37	38	3.7	1.3		1.54	
SC-638	184.5	7.51	581		50	43	5	1.0		1.59	
SC-639	222	7.38	844		60	49	6	2.1		1.50	
SC-640	174.1	7.68	483		28	47	2.8	1.1		1.83	
SC-641	80.6	7.82	450		67	48	6.7	1.0		1.13	
SC-642	186	7.52	1097		38	45	3.8	1.1		0.76	
MIN	-94.9	6.76	315		19	32		0.8		0.7	
MAX	274.2	7.93	1165		95	67		9.5		2.5	
MEAN	142.5	7.49	714		45	44		3.4		1.3	
STDEV	102.7	0.30	222		17	8		2.9		0.5	
ANOMALY (1.5)	95.0	7.79	1071		67	66	0.0	5.0		1.95	

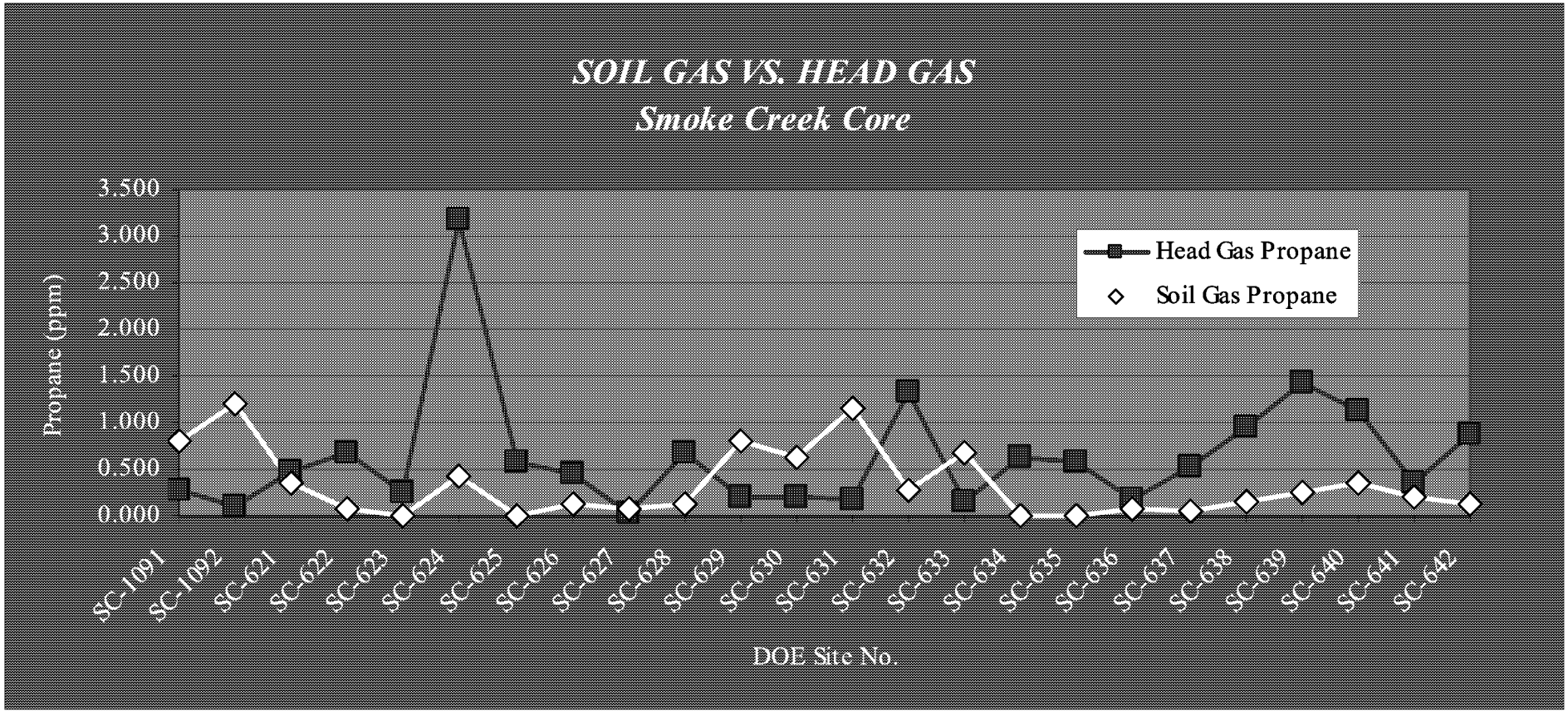
SC Core Soil Gas Validity



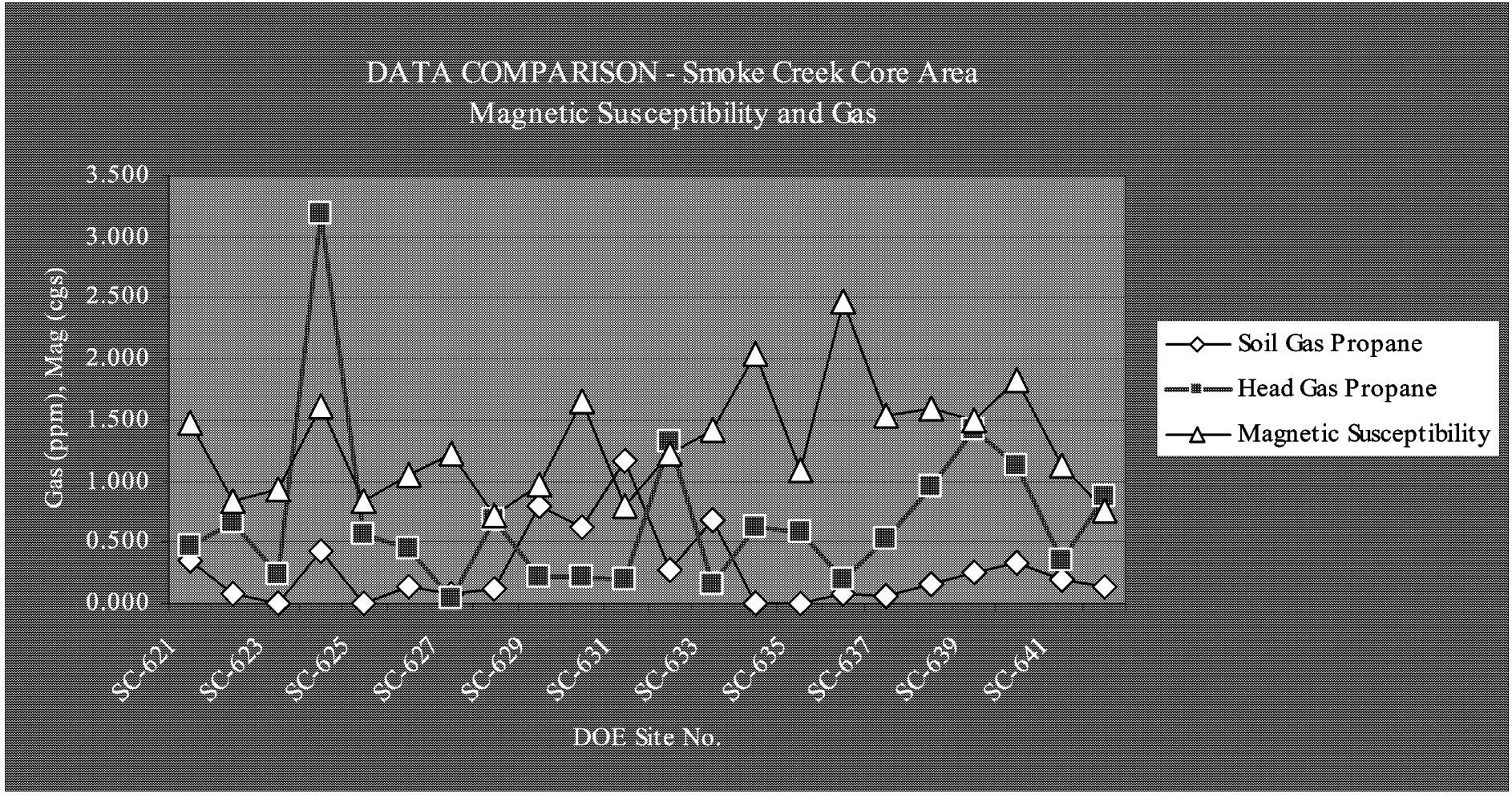
SC Core Head Gas Validity



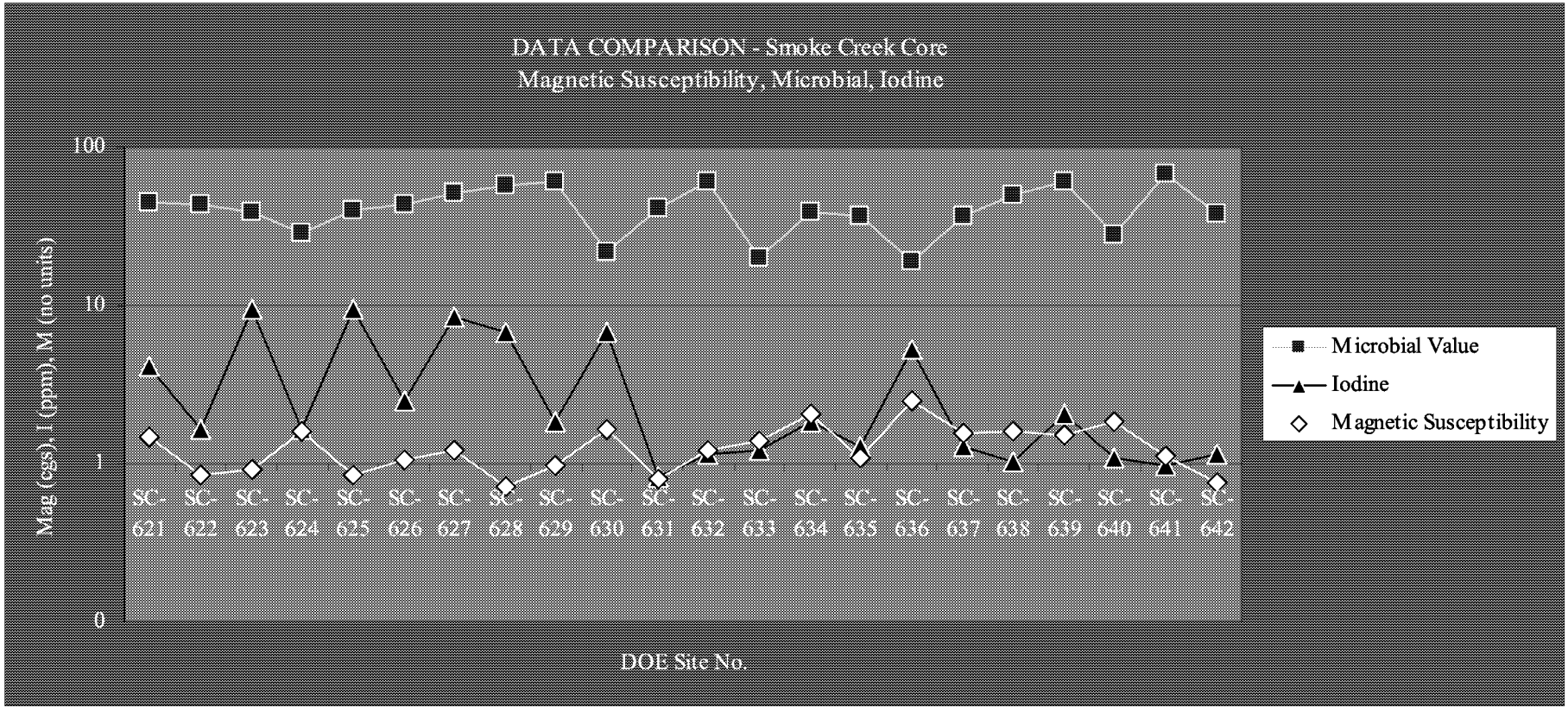
SC Core C3 Comparison



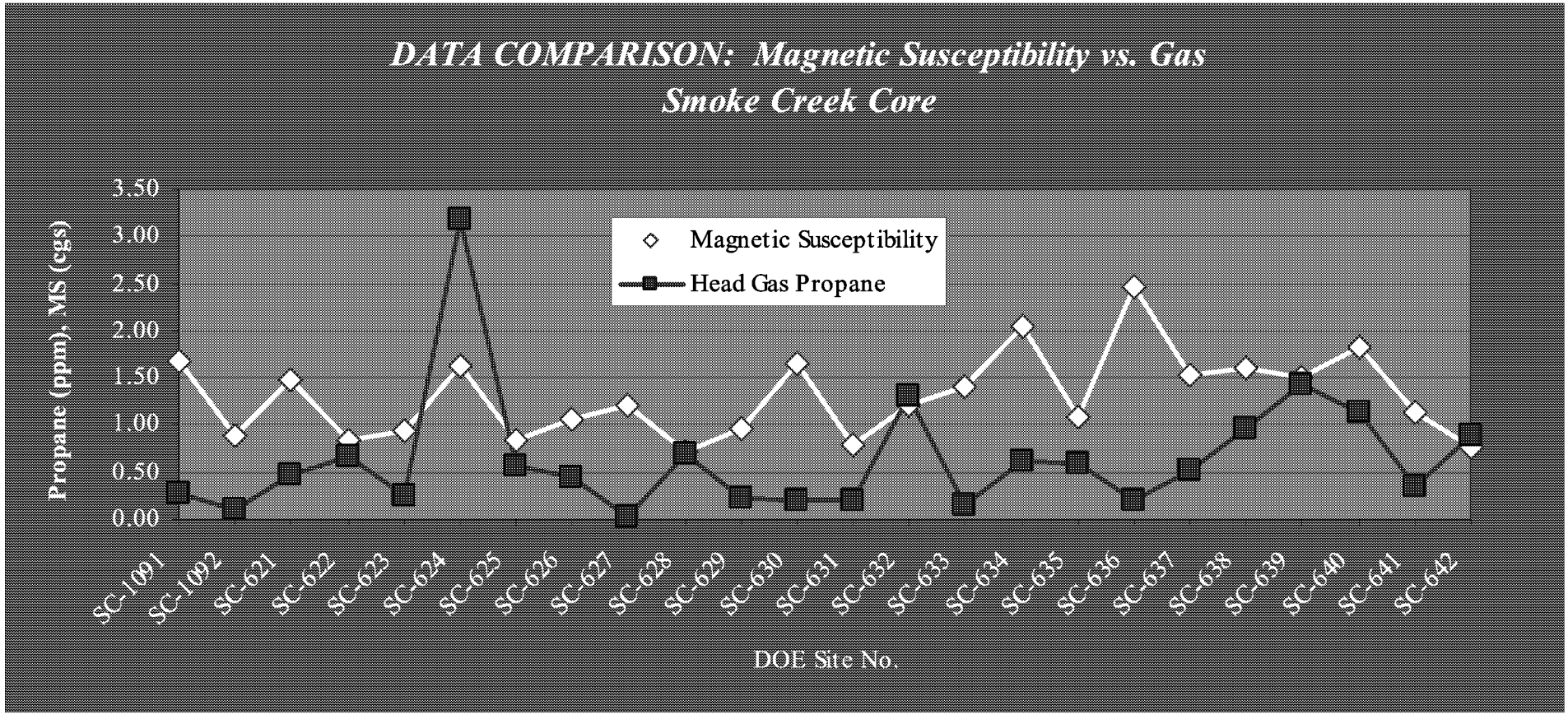
SC Core C3 vs. Mag Sus



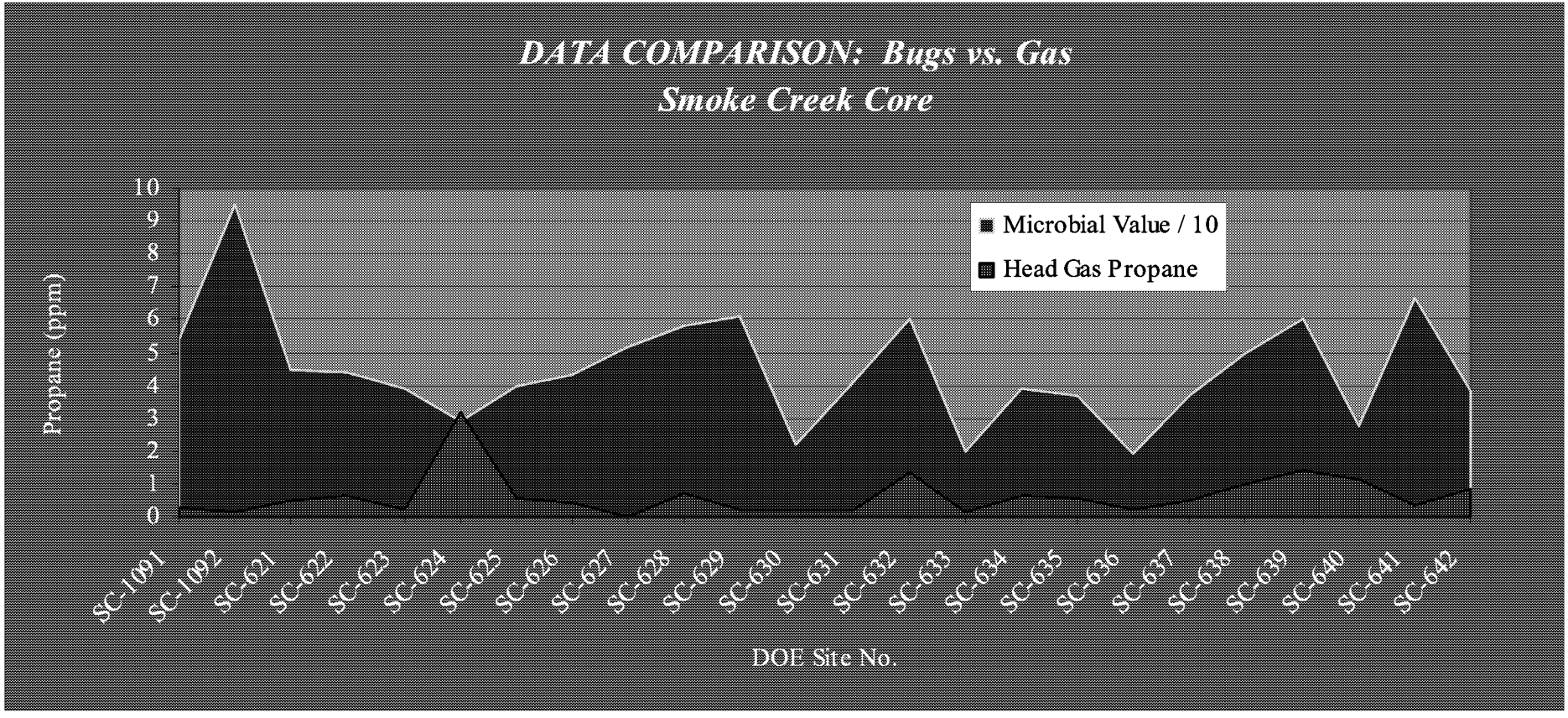
SC Core MagSus, Microbial, Iodine



SC Core Head Gas C3 vs. Mag Sus



SC Core Head Gas C3 vs. Microbes



SC Core Head Gas C3 vs. Iodine

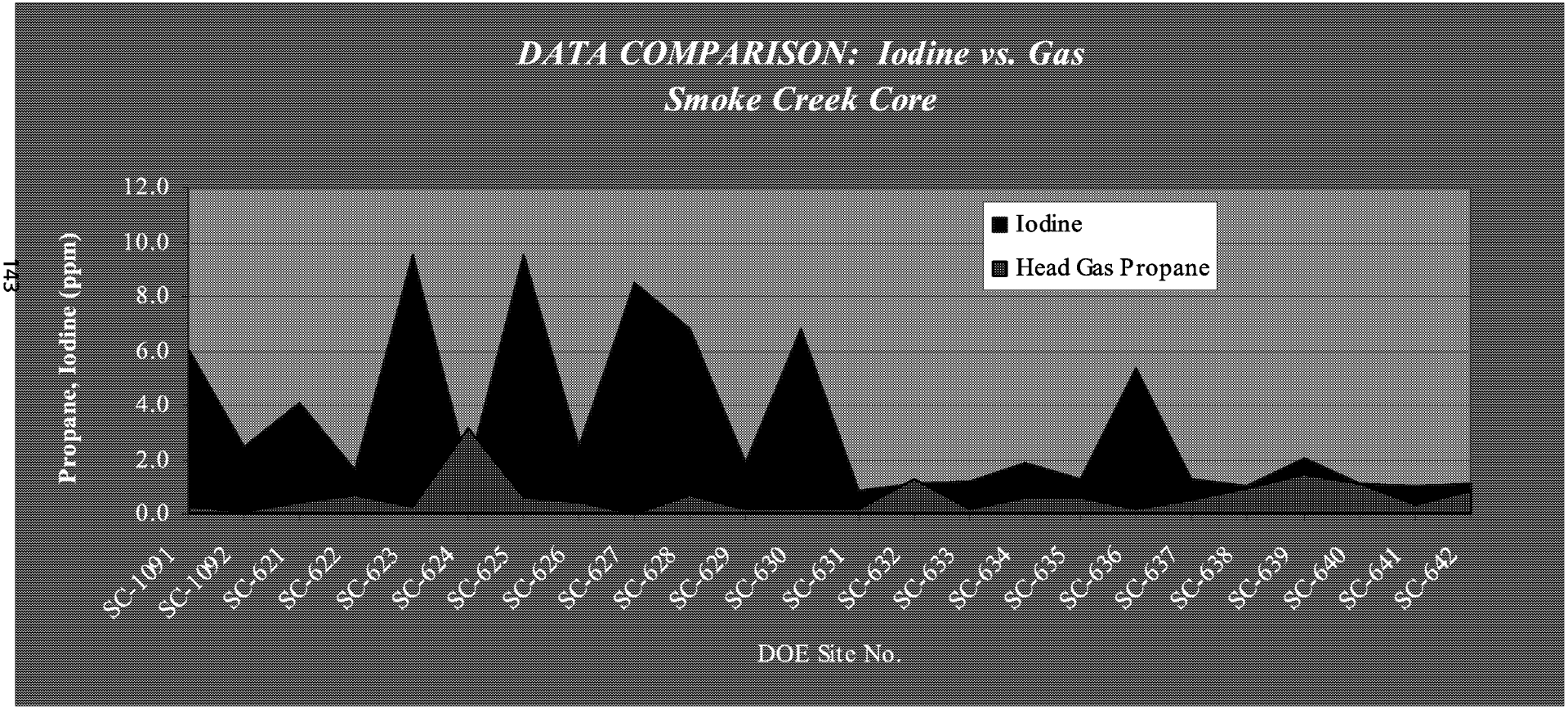


TABLE 4A

sclwgps	TABLE 4A: LOBOWEST SAMPLE LOCATIONS										
DOE GRANT	AREA 1	SMOKE CREEK		LOBO WEST PROSPECT			FORT PECK RESERVATION, MONTANA				
DOESITENO	VEGETATION	SLOPE	SOIL	MOISTURE	AIRTEMP	BAROMETER	LATITUDE	LONGITUDE	DEPTH	DRAW	WEATHER
			at sample depth		deg. F.	psi	utm-y	utm-x	in. probe,auger	cc, syringe	
SCLW-1	summerfallow	flat	loam	damp	40	29.5	5369077.0397	525931.76758119	3036	0.0	cloudy
SCLW-2	stubble	gentle	loam	dry	40	29.5	5369076.3889	525541.91275675	2836	0.0	cloudy
SCLW-3	summerfallow	gentle	loam	damp	48	29.1	5369087.1871	525121.64045529	3636	0.0	cloudy
SCLW-4	summerfallow	gentle	loam	damp	48	29.1	5369079.6479	524768.77584460	3136	0.4	cloudy
SCLW-5	stubble	gentle	loam	damp	48	29.1	5369084.0348	524303.49412961	3336	0.0	cloudy
SCLW-6	stubble	gentle	loam	damp	48	29.1	5369081.1155	524120.81106774	3636	0.5	partly overcast
SCLW-7	stubble	flat	loam	dry	48	29.1	5369078.7454	523923.53176484	3636	0.3	partly overcast
SCLW-8	stubble	flat	loam	damp	48	29.1	5369080.2562	523720.77993998	3436	0.1	partly overcast
SCLW-9	summerfallow	flat	clay	damp	48	29.0	5369080.4805	523518.56803405	3236	3.8	partly overcast
SCLW-10	stubble	flat	loam	damp	48	29.0	5369079.0763	523316.68435612	3536	0.2	sunny
SCLW-11	summerfallow	flat	loam	damp	48	29.0	5369080.5131	523114.47946566	3236	0.1	sunny
SCLW-12	summerfallow	flat	loam	dry	47	29.2	5369077.0702	522913.09313625	3236	0.6	sunny
SCLW-13	summerfallow	flat	loam	damp	47	29.2	5369075.3468	522720.16100779	3636	3.0	sunny
SCLW-14	summerfallow	flat	loam	damp	47	29.2	5369077.5486	522317.70869496	2936	1.0	sunny
SCLW-15	summerfallow	flat	loam	damp	47	29.2	5369073.8151	521914.48732252	2936	0.0	sunny
SCLW-16	summerfallow	flat	loam	damp	47	29.2	5369073.3789	521515.30338744	3535	1.0	sunny
SCLW-17	summerfallow	flat	loam	damp	47	29.2	5369075.0668	521129.38828385	4036	1.0	sunny

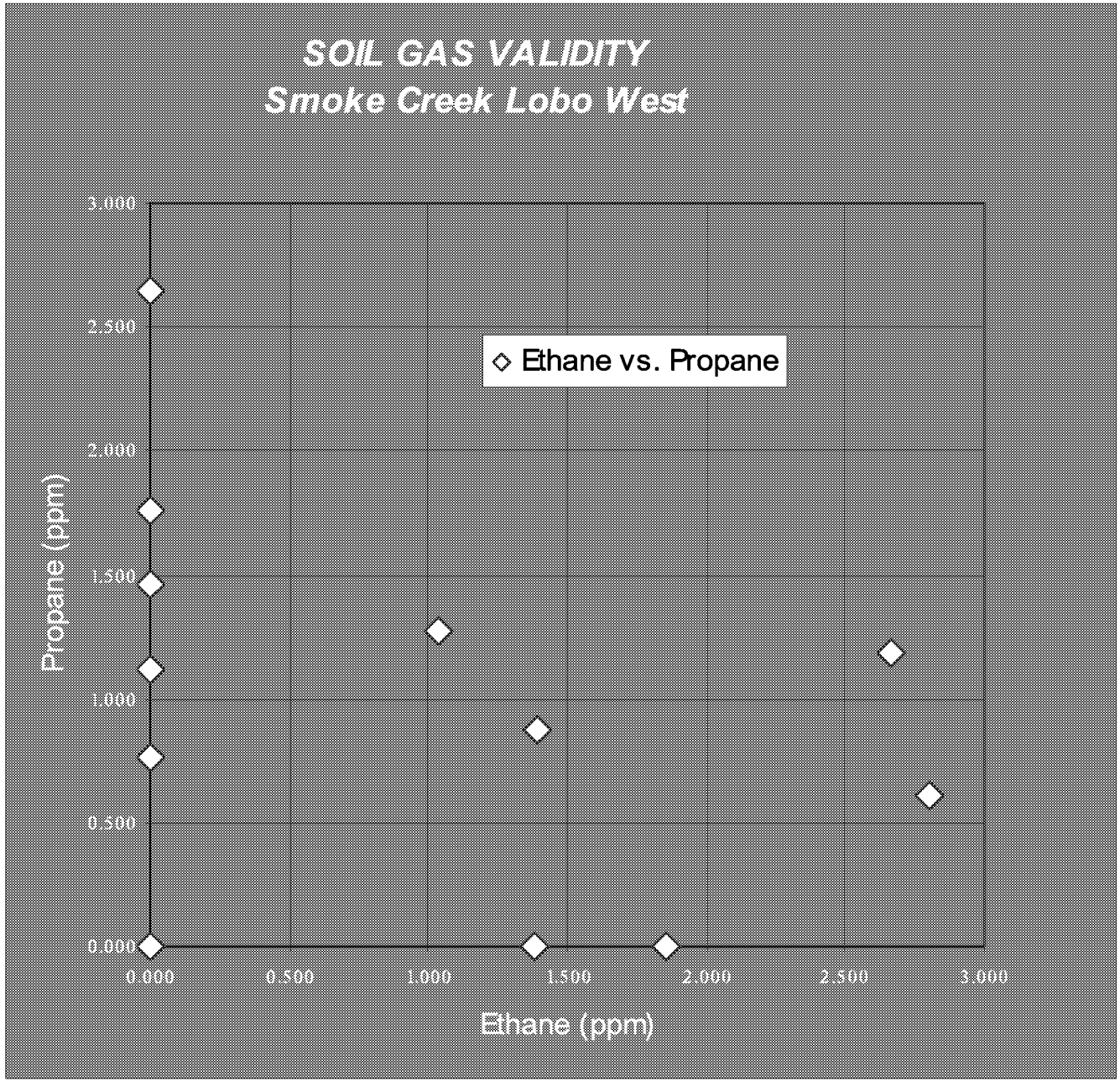
TABLE 4B

sclwdata	TABLE 4B: DOE AREA1, SMOKE CREEK, LOBO WEST GAS DATA													
DOESITENO	Soil Gas	(ppm)					Head Gas	(ppm)						
	c1	c2	c3	ic4	nc4		METHANE	ETHANE	ETHENE	PROPANE	PROPENE	i-BUTANE	n-BUTANE	i-PENTANE
SCLW-1	5.243	1.040	1.275	0.789	1.606		16.689	3.484	2.216	1.388	0.153	0.139	0.590	0.095
SCLW-2	4.547	0.000	2.648	1.192	8.220		6.811	0.983	0.579	0.022	0.019	0.073	0.153	0.026
SCLW-3	5.005	2.667	1.190	0.000	0.860		8.544	1.397	0.594	0.421	0.148	0.052	0.064	0.065
SCLW-4	7.775	0.000	0.000	0.818	1.021		5.277	0.625	0.335	0.225	0.108	0.079	0.116	0.027
SCLW-5	6.909	0.000	0.000	0.302	1.301		13.717	1.984	1.084	0.881	0.103	0.109	0.299	0.019
SCLW-6	4.640	0.000	1.764	1.614	0.506		8.700	0.941	0.591	0.407	0.016	0.026	0.232	0.075
SCLW-7	5.013	1.857	0.000	0.902	1.340		7.223	0.660	0.579	0.146	0.114	0.033	0.229	0.031
SCLW-8	5.966	0.000	1.462	0.346	0.762		11.454	1.597	0.976	0.747	0.040	0.130	0.337	0.043
SCLW-9	6.133	0.000	0.765	0.436	0.548		8.854	1.349	0.728	0.541	0.075	0.013	0.015	0.059
SCLW-10	9.269	0.000	0.000	0.445	1.265		6.476	0.828	0.538	0.359	0.131	0.021	0.147	0.101
SCLW-11	6.199	0.000	0.000	0.336	1.026		8.049	0.892	1.052	0.558	0.150	0.084	0.349	0.143
SCLW-12	4.432	2.805	0.606	0.749	1.003		7.818	1.225	0.696	0.585	0.119	0.115	0.210	0.091
SCLW-13	6.261	0.000	1.114	1.604	0.501		6.832	0.897	0.467	0.157	0.122	0.035	0.165	0.096
SCLW-14	5.087	1.380	0.000	1.169	0.000		7.850	0.924	0.435	0.281	0.146	0.105	0.095	0.056
SCLW-15	4.582	0.000	0.000	0.591	0.837		7.268	0.817	0.258	0.401	0.167	0.018	0.018	0.031
SCLW-16	4.138	0.000	0.000	0.473	0.310		8.202	1.188	0.570	0.581	0.113	0.069	0.209	0.124
SCLW-17	5.941	1.392	0.871	1.187	1.580		3.018	0.269	0.164	0.218	0.019	0.090	0.046	0.039
MIN	4.138	0.000	0.000	0.000	0.000		3.018	0.269	0.164	0.022	0.016	0.013	0.015	0.019
MAX	9.269	2.805	2.648	1.614	8.220		16.689	3.484	2.216	1.388	0.167	0.139	0.590	0.143
MEAN	5.714	0.655	0.688	0.762	1.334		8.399	1.180	0.698	0.466	0.103	0.070	0.193	0.066
STDEV	1.339	1.002	0.799	0.465	1.828		3.137	0.716	0.467	0.327	0.050	0.041	0.145	0.037
ANOMALY (1.5)	8.571	0.983	1.032	1.143	2.002		12.598	1.770	1.047	0.699	0.154	0.105	0.289	0.099

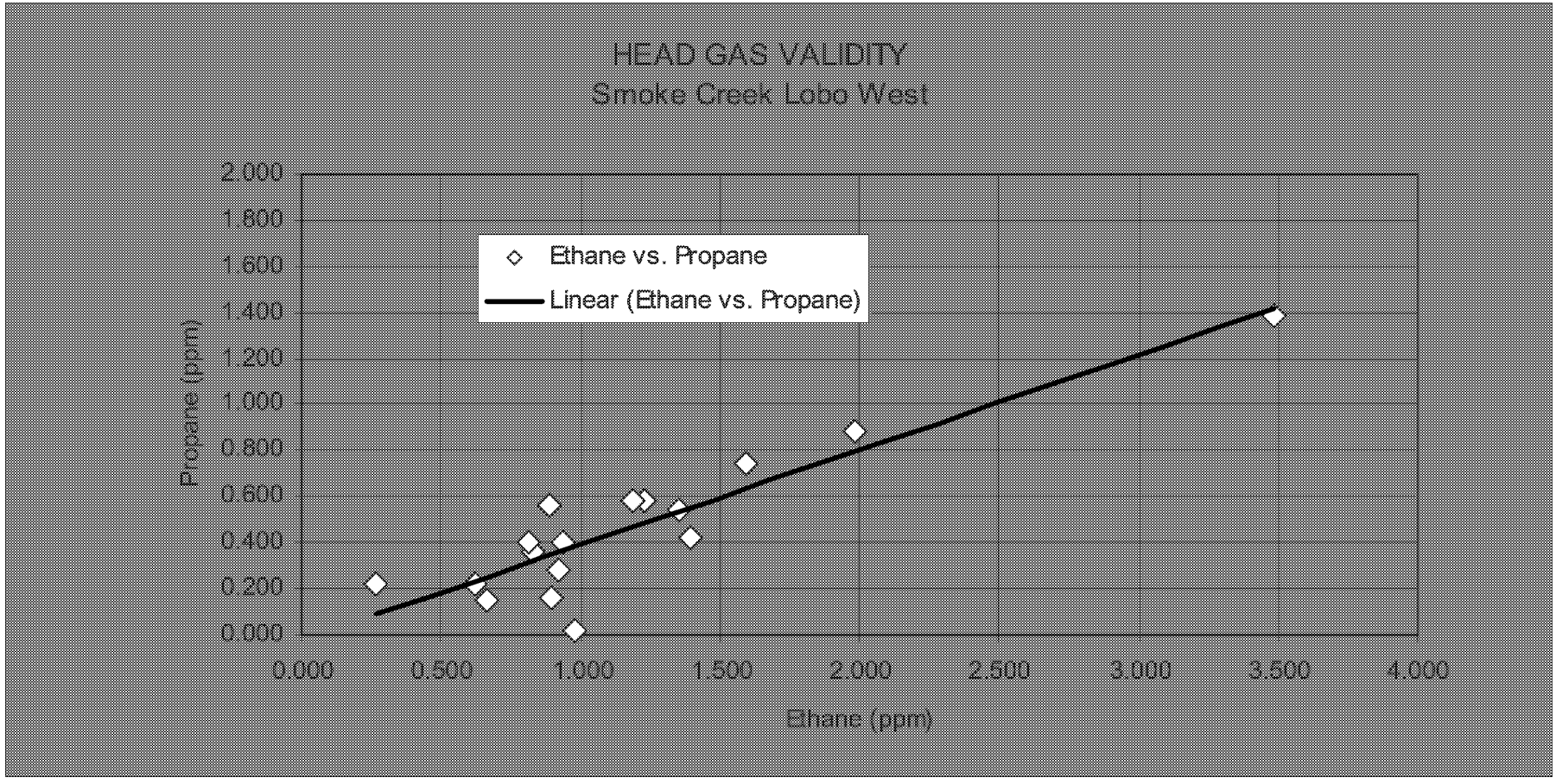
TABLE 4C

TABLE 4C: DOE AREA1, SMOKE CREEK, LOBO WEST N0N-GAS DATA															
DOESITENO				Microbial Value			Iodine	Magnetic Susceptibility							
	EH	PH	COND	**MV**	**SMV**	MV / 10	(ppm)	cgs units		hg-c3	ms	hg-c3	Eh / 10	pH -7 x 20	K / 200
SCLW-1	199.7	7.59	564	59	50	5.9	1.5	SC1042	1.61	1.388	1.61	1.388	20.0	11.8	2.8
SCLW-2	192.0	7.87	618	48	46	4.8	4.1				1.90	0.421	19.2	17.4	3.1
SCLW-3	181.6	8.29	712	27	41	2.7	1.5	SC1041	1.90	0.421	3.26	0.881	18.2	25.8	3.6
SCLW-4	189.6	8.10	696	45	42	4.5	9.5				3.26	0.747	19.0	22.0	3.5
SCLW-5	196.8	7.65	537	44	49	4.4	3.0	SC1040	3.26	0.881	1.68	0.558	19.7	13.0	2.7
SCLW-6	213.6	7.25	591	56	57	5.6	2.5				0.70	0.157	21.4	5.0	3.0
SCLW-7	214.7	7.32	611	81	60	8.1	1.7				1.44	0.281	21.5	6.4	3.1
SCLW-8	209.6	7.57	647	53	56	5.3	3.0	SC1039	3.26	0.747	1.61	0.581	21.0	11.4	3.2
SCLW-9	203.3	7.83	574	37	51	3.7	1.7				1.46	0.218	20.3	16.6	2.9
SCLW-10	214.1	7.55	503	54	49	5.4	1.6						21.4	11.0	2.5
SCLW-11	217.3	7.40	671	56	51	5.6	1.6	SC1038	1.68	0.558			21.7	8.0	3.4
SCLW-12	207.6	7.80	545	42	50	4.2	8.5						20.8	16.0	2.7
SCLW-13	225.8	7.24	716	58	50	5.8	1.3	SC1037	0.70	0.157			22.6	4.8	3.6
SCLW-14	212.0	7.65	694	45	50	4.5	4.7	SC1036	1.44	0.281			21.2	13.0	3.5
SCLW-15	216.8	7.52	642	46	52	4.6	1.5						21.7	10.4	3.2
SCLW-16	227.7	7.25	673	64	53	6.4	1.6	SC1035	1.61	0.581			22.8	5.0	3.4
SCLW-17	217.3	7.72	562	52	52	5.2	9.5	SC1034	1.46	0.218			21.7	14.4	2.8
MIN	181.6	7.24	503	27	41	2.7	1.3		0.70	0.157	0.696	0.157	18.2	4.80	2.5
MAX	227.7	8.29	716	81	60	8.1	9.5		3.26	1.388	3.264	1.388	22.8	25.80	3.6
MEAN	208.2	7.62	621	51	51	5.1	3.5		1.88	0.581	1.880	0.581	20.8	12.47	3.1
STDEV	12.7	0.30	67	12	5	1.2	2.9		0.85	0.387	0.851	0.387	1.3	5.93	0.3
ANOMALY (1	138.8	7.92	931	77	76	7.7	5.2		2.82	0.872	2.820	0.872	13.9	18.40	4.7

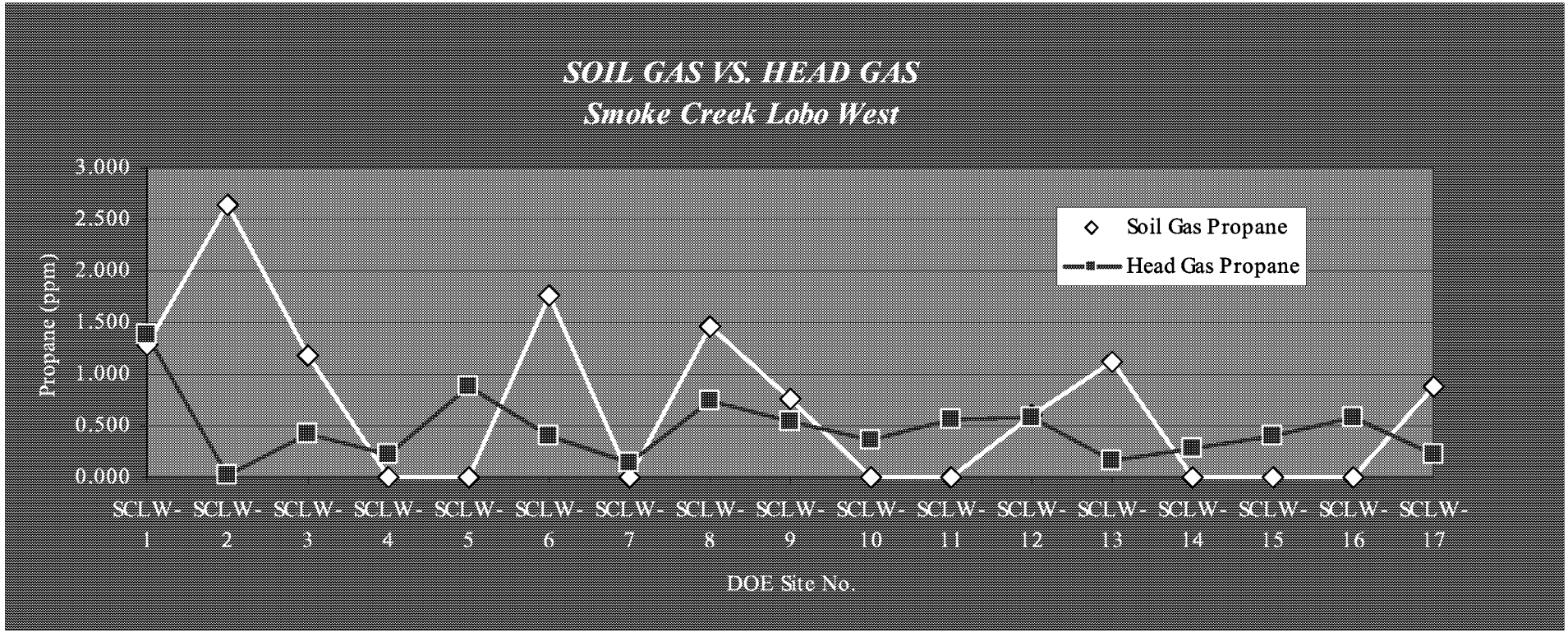
SC Lobo West Soil Gas Validity



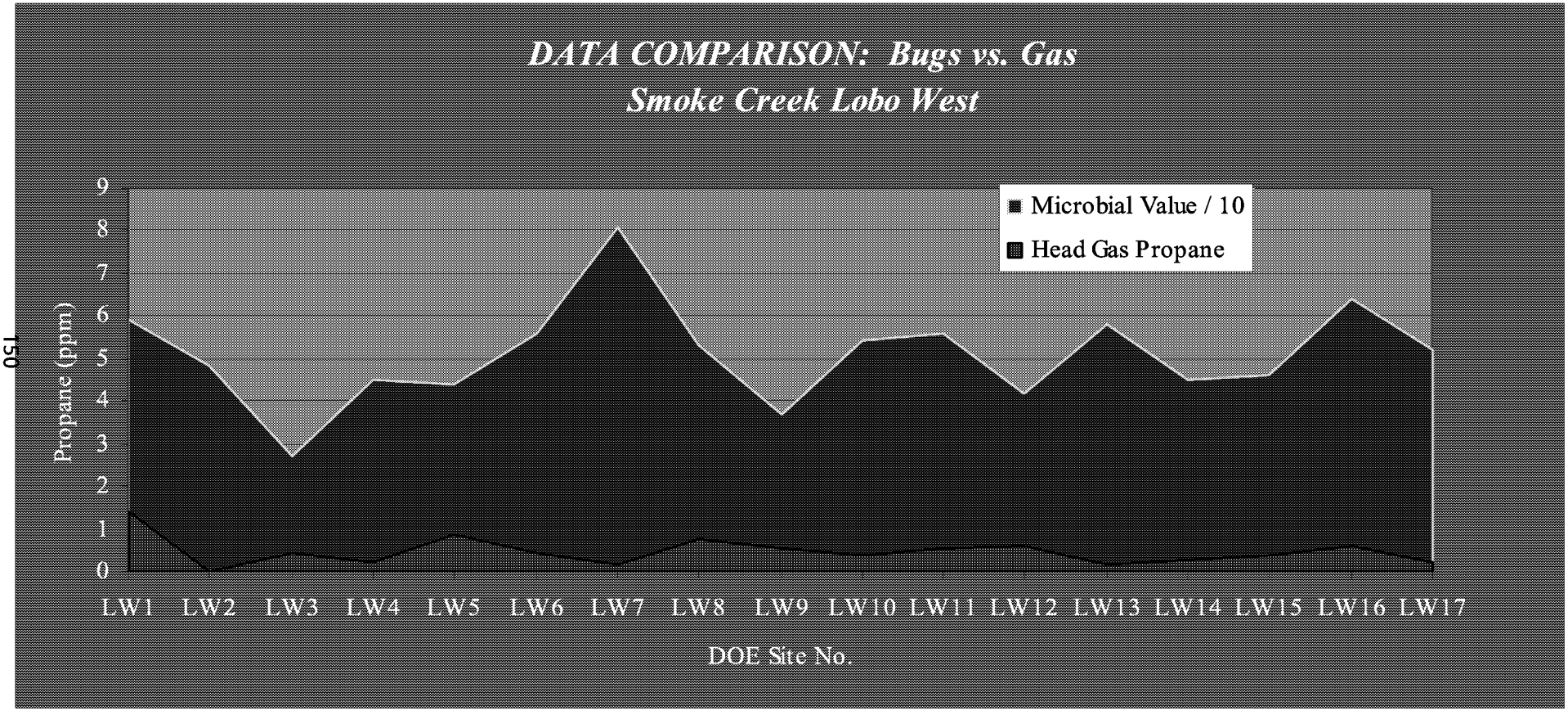
SC Lobo West Head Gas Validity



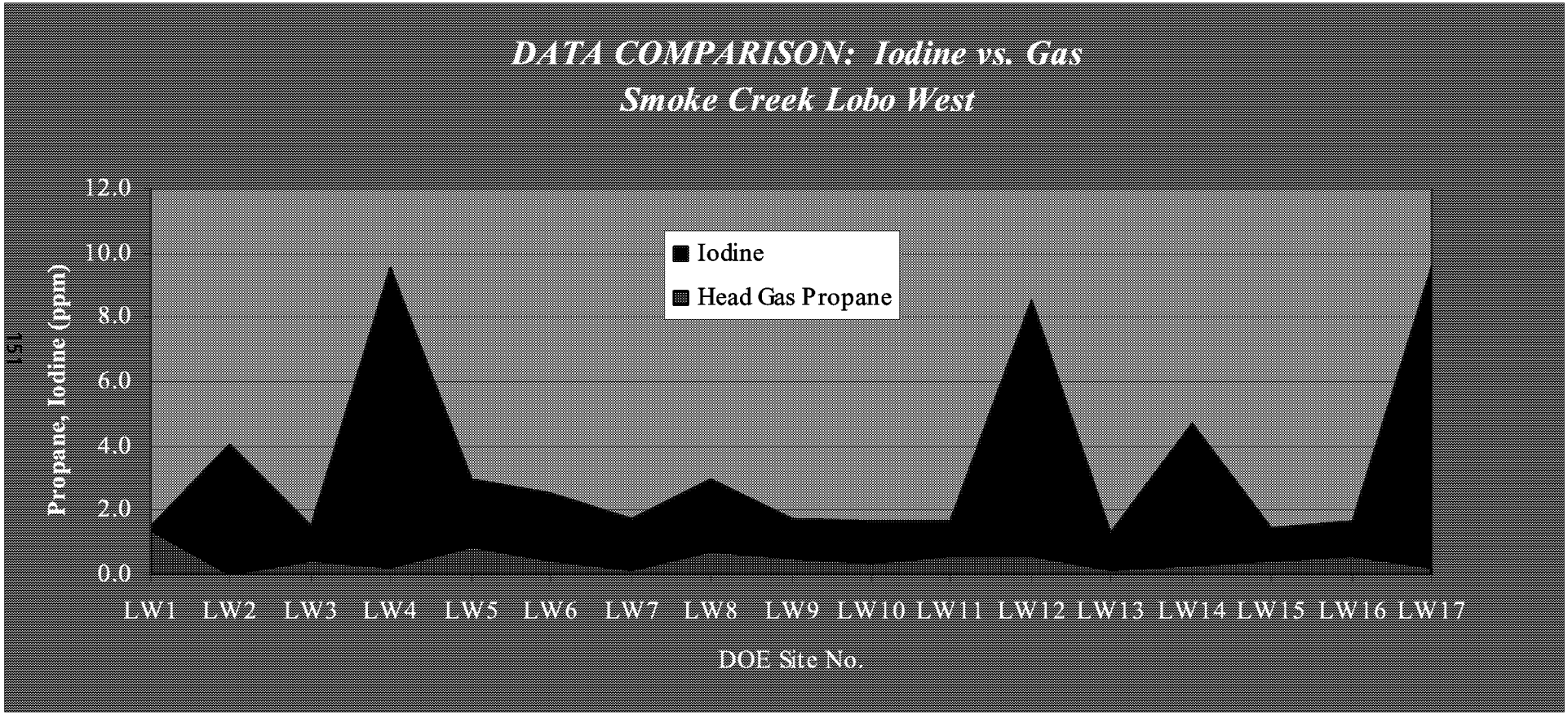
SC Lobo West Gas Comparison



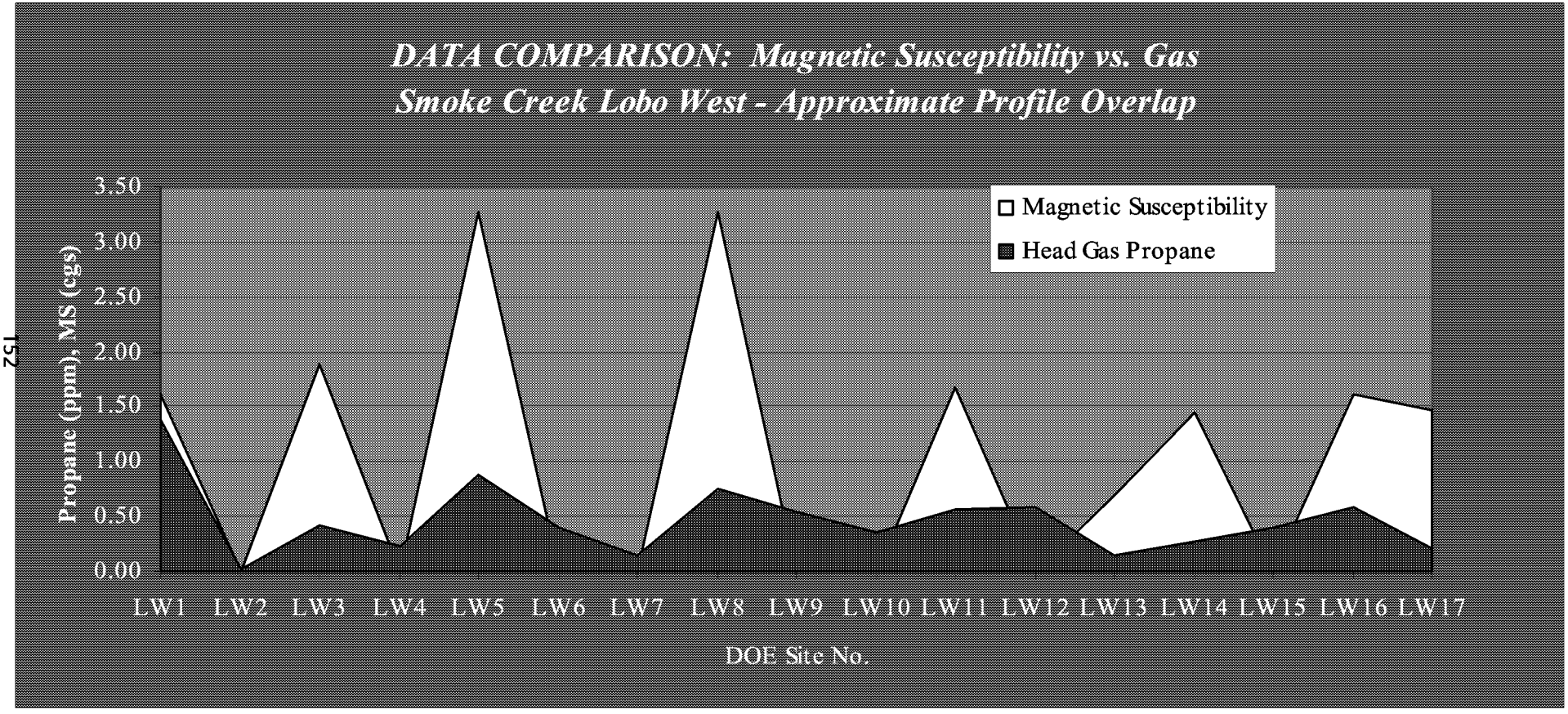
SC Lobo West Gas vs. Microbes



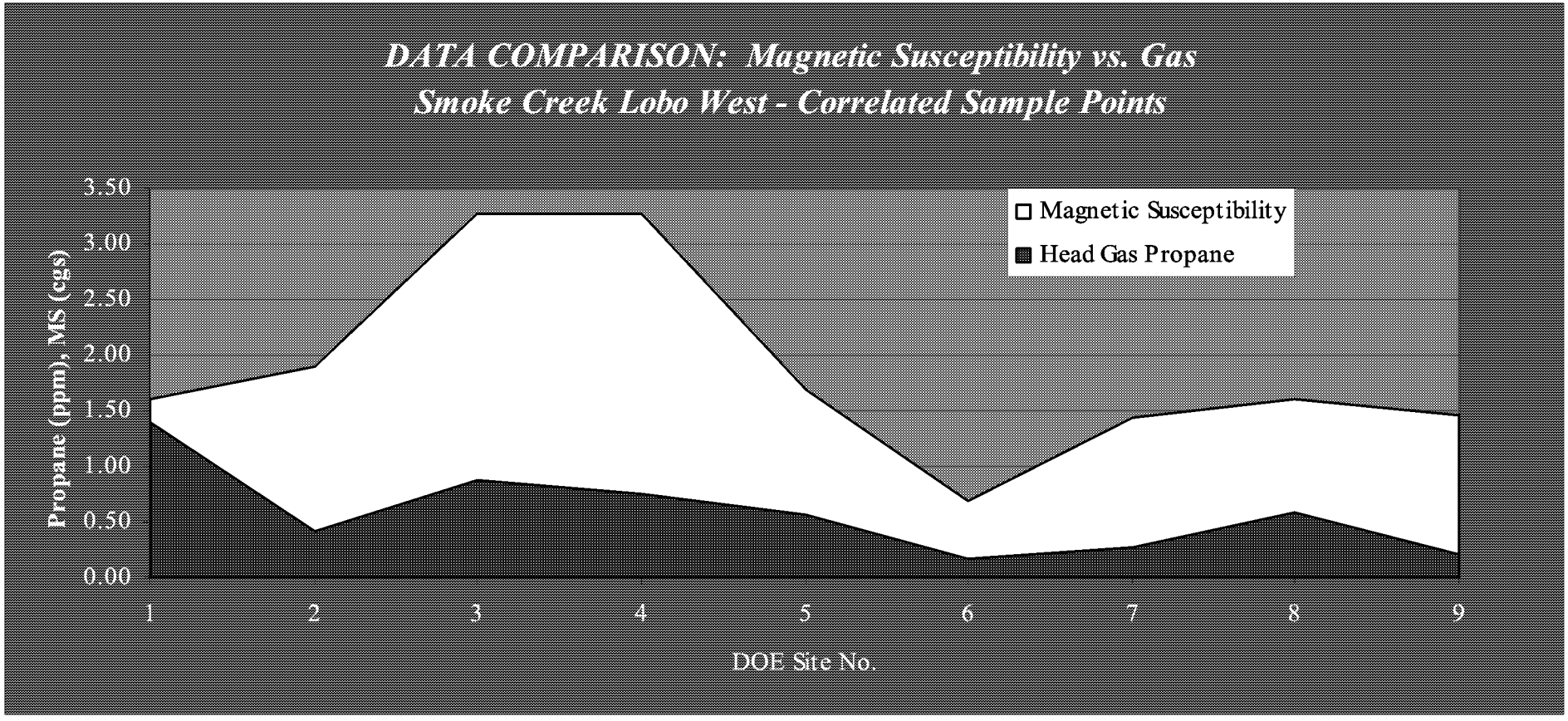
SC Lobo West Gas vs. Iodine

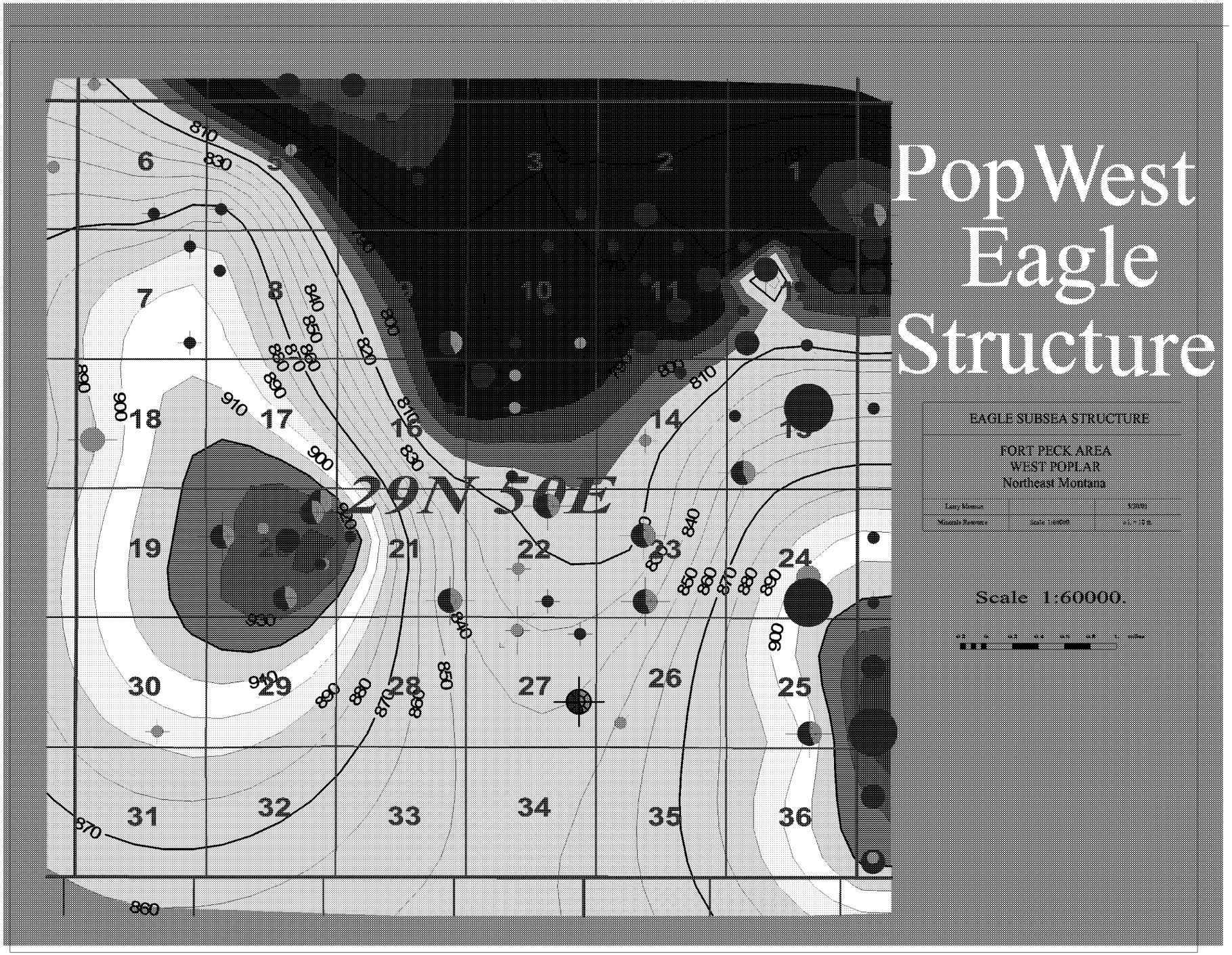


SC Lobo West Gas vs. MagSus Profile 1



SC Lobo West Gas vs. MagSus Profile 2




Pop West
Eagle
Structure
EAGLE SUBSEA STRUCTURE
FORT PECK AREA
WEST POPLAR
Northeast Montana
Scale 1:60000.
29N 50E
1
2
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810
820
830
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850
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870
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890
900
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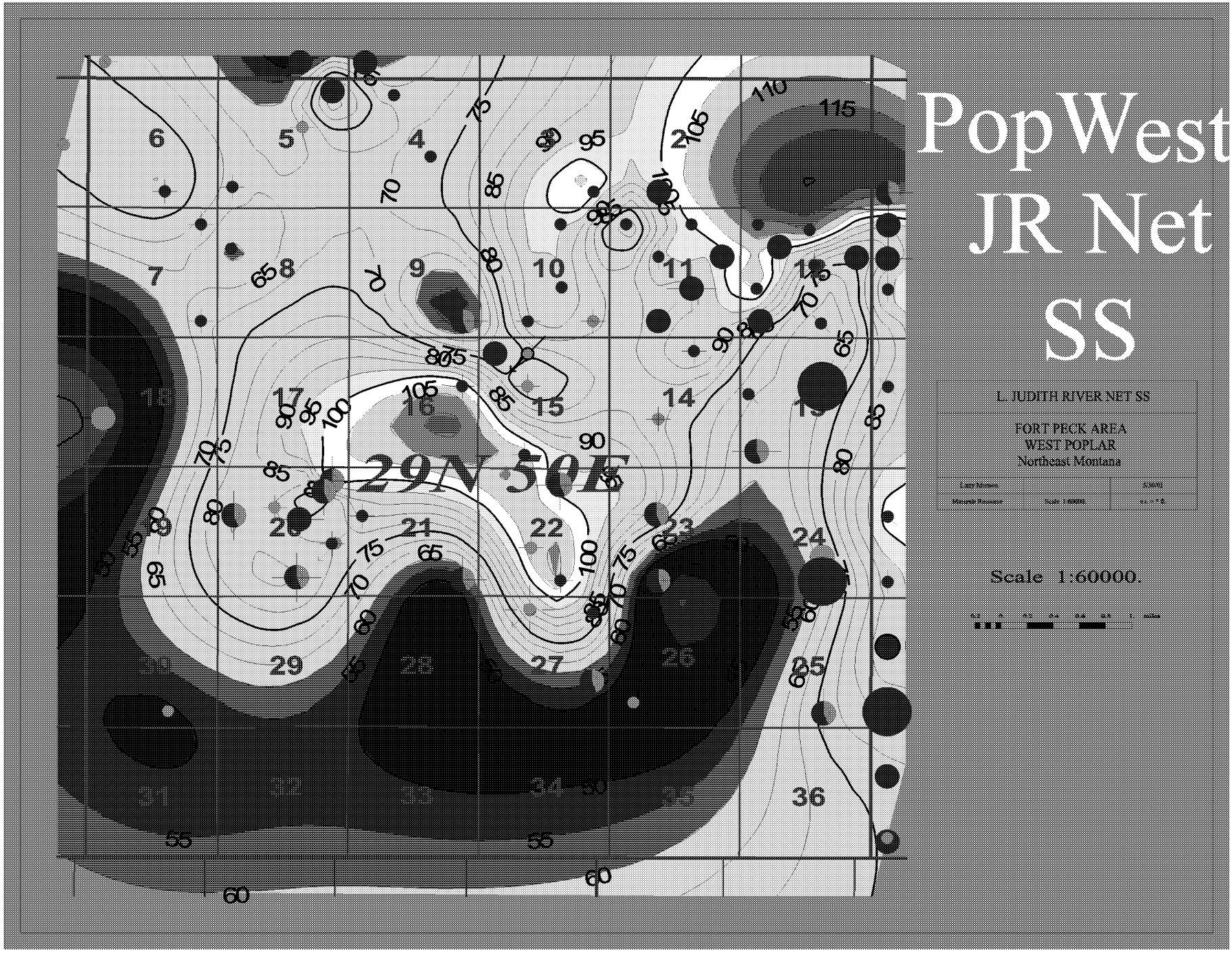
920
930


PopWest
JR Net
SS
L. JUDITH RIVER NET SS
FORT PECK AREA
WEST POPLAR
Northeast Montana
Scale 1:60000.
29N 50E

PopWest Sample Sites

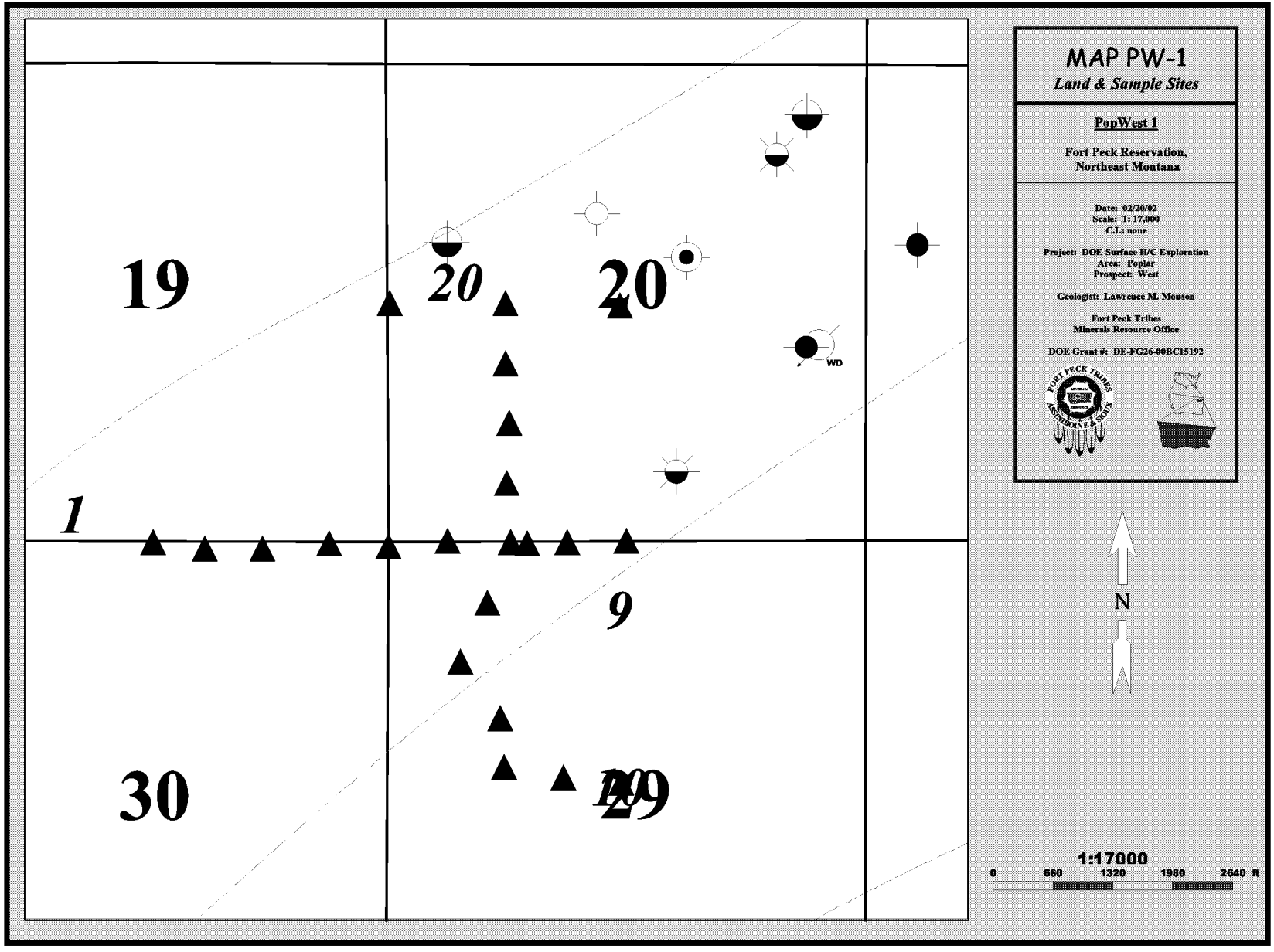


TABLE 5A

TABLE 5A: POPWEST AREA, DOE GRANT, SAMPLE LOCATIONS													
DOESITENO	VEGETATION	SLOPE	SOIL	MOISTURE	AIRTEMP	BAR.	LATITUDE	LONGITUDE	TOPOGRAPHY	DEPTH in.	DRAW	WEATHER	WIND
			at sample depth			psi	utm-y	utm-x		probe/auger	cc		dir/mph
PW-1	stubble	flat	loam	dry	52	29.2	5343296.0065	480195.12639887	PLAIN	3836	0.1	cloudy	SE10
PW-2	stubble	gentle	loam	dry	52	29.2	5343272.8362	480367.44368820	HILLSIDE	3234	1.0	cloudy	SE10
PW-3	stubble	gentle	loam	damp	52	29.3	5343274.4260	480564.79322381	HILLSIDE	3536	0.0	partly overcast	E15
PW-4	stubble	gentle	silt	dry	52	29.3	5343289.8250	480786.36593680	HILLSIDE	3536	1.1	partly overcast	E15
PW-5	grass	gentle	silt	dry	50	29.3	5343283.6733	480984.94612360	HILLSIDE	2833	0.0	cloudy	E10
PW-6	grass	gentle	silt	dry	44	29.4	5343298.6979	481186.94710328	HILLSIDE	3635	0.2	cloudy	E10
PW-7	grass	steep	loam	damp	44	29.4	5343294.0150	481398.62321617	HILLSIDE	3636	2.1	cloudy	E10
PW-8	summerfallow	flat	clay	damp	40	29.4	5343295.1447	481586.28303418	HILLSIDE	2636	4.1	cloudy	NE5-10
PW-9	summerfallow	flat	clay	wet	40	29.4	5343298.1258	481784.28538203	PLAIN	2836	0.0	cloudy	NE5
PW-10	stubble	flat	loam	dry	40	29.3	5342489.1793	481766.56021468	PLAIN	3230	0.0	cloudy	NE15
PW-11	summerfallow	flat	loam	damp	40	29.3	5342504.3550	481575.89697986	PLAIN	3635	0.0	cloudy	NE15
PW-12	summerfallow	gentle	loam	wet	40	29.6	5342539.1497	481377.47296944	HILLSIDE	3636	0.0	cloudy	NE15
PW-13	summerfallow	gentle	loam	wet	40	29.6	5342704.4057	481360.99311929	HILLSIDE	3636	0.6	cloudy	NE15
PW-14	summerfallow	gentle	loam	wet	40	29.6	5342895.0260	481230.58679547	HILLSIDE	3636	1.0	cloudy	NE15
PW-15	summerfallow	gentle	loam	wet	40	29.2	5343091.4768	481318.43316681	PLAIN	3636	2.0	cloudy	NE15
PW-16	summerfallow	gentle	loam	wet	40	29.2	5343290.7126	481452.99829895	PLAIN	3636	2.0	cloudy	NW15-20
PW-17	bare	flat	clay	dry	38	29.2	5343494.5657	481385.94929031	PLAIN	3228	1.6	cloudy	NW15-20
PW-18	grass	flat	silt	dry	38	29.2	5343698.1228	481391.74345304	PLAIN	3636	1.8	cloudy	NW15-20
PW-19	grass	flat	clay	dry	38	29.2	5343893.9544	481378.48397294	PLAIN	2826	3.6	cloudy	NW15
PW-20	grass	flat	silt	dry	38	29.2	5344098.1318	481379.60103271	PLAIN	2633	0.6	cloudy	NW15
PW-21	grass	flat	silt	dry	38	29.2	5344091.4113	481765.89120201	PLAIN	3836	2.0	cloudy	NW15
PW-22	grass	gentle	loam	dry	40	29.8	5344098.7231	480991.63559085	BENCH	3536	1.8	cloudy	NW15

TABLE 5B

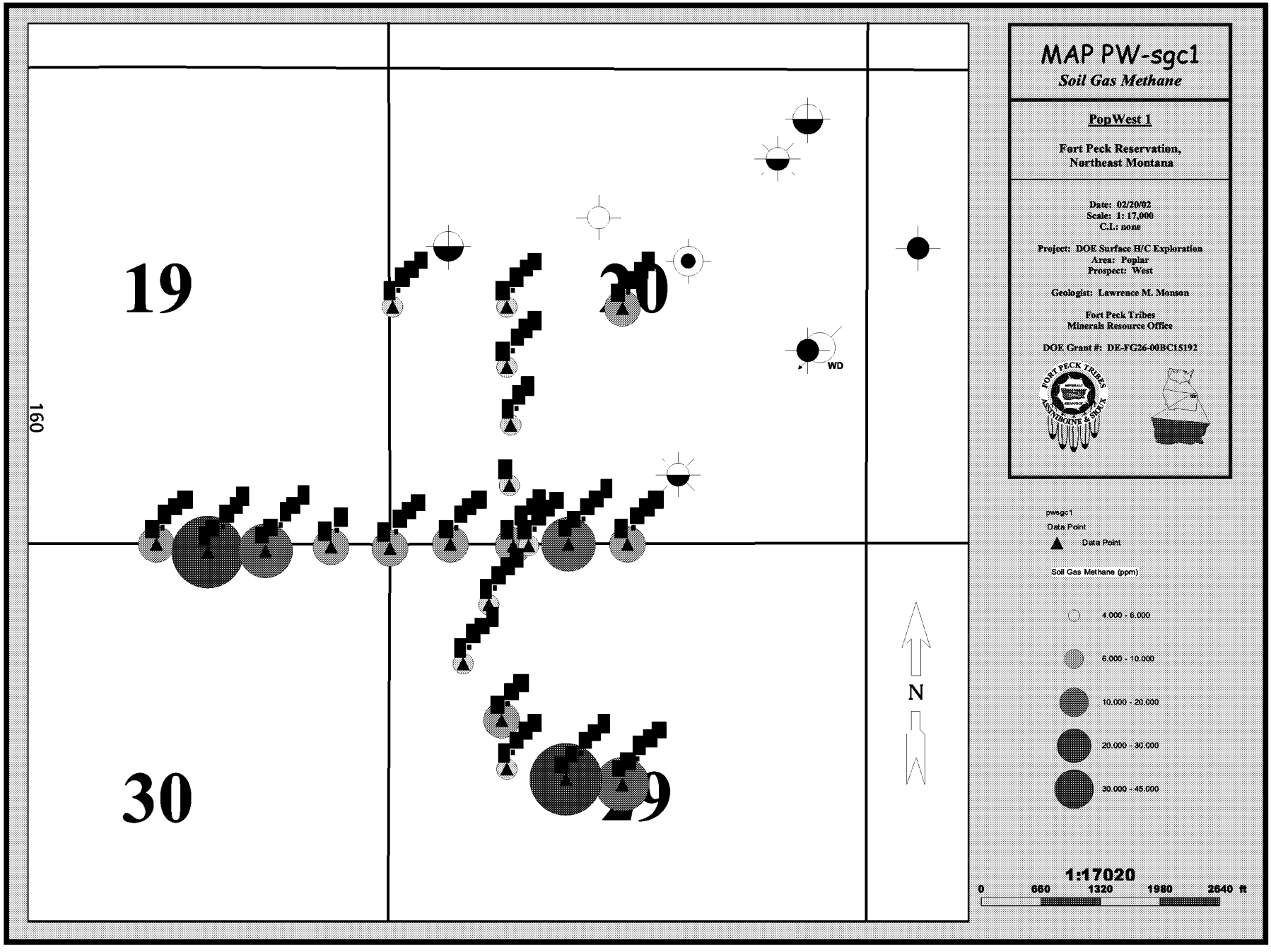
pwdataall	TABLE 5B: POPLAR WEST DOE GAS DATA													
DOESITENO	Soil Gas	(ppm)					Head Gas	ppm						
	c1	c2	c3	ic4	nc4		METHANE	ETHANE	ETHENE	PROPANE	PROPENE	i-BUTANE	n-BUTANE	i-PENTANE
PW-1	6.792	0.000	0.000	0.740	0.504		24.478	2.703	3.158	1.126	0.021	0.232	0.527	0.106
PW-2	43.617	0.162	0.332	0.150	0.279		60.155	7.338	6.648	2.919	0.034	0.348	1.164	0.162
PW-3	13.494	0.081	0.266	0.586	1.444		10.45	1.281	0.915	0.242	0.021	0.064	0.313	0.072
PW-4	7.500	0.000	0.000	1.232	2.165		14.914	1.861	2.637	0.491	0.059	0.054	0.554	0.172
PW-5	7.699	0.000	0.000	1.421	2.438		78.404	8.118	9.852	2.885	0.036	0.2	1.484	0.242
PW-6	6.132	1.477	0.000	0.020	0.443		17.19	1.13	5.464	0.715	0.026	0.05	0.549	0.275
PW-7	7.717	0.000	1.399	1.307	1.084		8.783	0.455	3.63	0.466	0.013	0.059	0.512	0.083
PW-8	11.384	0.000	0.000	0.000	0.486		5.836	0.627	1.065	0.195	0.017	0.006	0.103	0.036
PW-9	7.022	0.063	0.000	0.193	0.265		3.701	0.299	0.197	0.042	0.013	0.033	0.033	0.04
PW-10	12.768	0.273	0.000	0.487	1.497		17.064	1.772	6.54	0.947	0.152	0.068	0.342	0.02
PW-11	31.114	0.000	0.356	1.408	0.635		9.16	0.98	0.553	0.479	0.074	0.012	0.108	0.014
PW-12	4.966	1.717	0.000	0.846	1.894		10.075	1.508	1.159	0.692	0.015	0.068	0.334	0.11
PW-13	6.820	2.791	0.000	4.338	0.044		15.273	1.676	3.799	1.015	0.047	0.146	0.393	0.018
PW-14	4.584	0.615	1.400	0.049	1.140		6.926	0.834	0.503	0.182	0.022	0.021	0.094	0.057
PW-15	4.665	1.244	0.700	0.120	0.000		7.554	0.852	0.457	0.406	0.016	0.069	0.007	0.014
PW-16	5.308	2.367	0.431	0.000	0.051		5.232	0.498	0.338	0.092	0.044	0.028	0.046	0.019
PW-17	5.000	1.611	0.852	0.000	0.165		360.5	0.485	1.665	0.32	0.12	0.005	0.155	0.022
PW-18	4.770	1.577	0.696	0.185	0.721		7.135	0.769	2.117	0.406	0.033	0.011	0.021	0.011
PW-19	5.155	1.536	0.915	0.000	0.102		21.636	1.73	5.084	0.903	0.042	0.082	0.66	0.032
PW-20	5.518	2.392	1.443	1.440	1.178		30.965	2.577	10.41	1.415	0.021	0.206	0.473	0.024
PW-21	6.207	0.000	0.000	0.000	0.067		21.691	2.043	5.049	0.895	0.029	0.013	0.353	0.01
PW-22	4.591	0.922	0.594	0.000	0.107		15.888	0.888	3.311	0.745	0.114	0.053	0.142	0.257
MIN	4.584	0.000	0.000	0.000	0.000		3.701	0.299	0.197	0.042	0.013	0.005	0.007	0.010
MAX	43.617	2.791	1.443	4.338	2.438		360.500	8.118	10.410	2.919	0.152	0.348	1.484	0.275
MEAN	9.674	0.856	0.427	0.660	0.760		34.228	1.837	3.389	0.799	0.044	0.083	0.380	0.082
STDEV	9.515	0.938	0.506	0.988	0.741		75.070	2.025	2.992	0.769	0.038	0.089	0.369	0.086
ANOMALY (1.5)	14.511	1.284	0.640	0.990	1.139		51.342	2.756	5.083	1.199	0.066	0.125	0.570	0.122

TABLE 5C

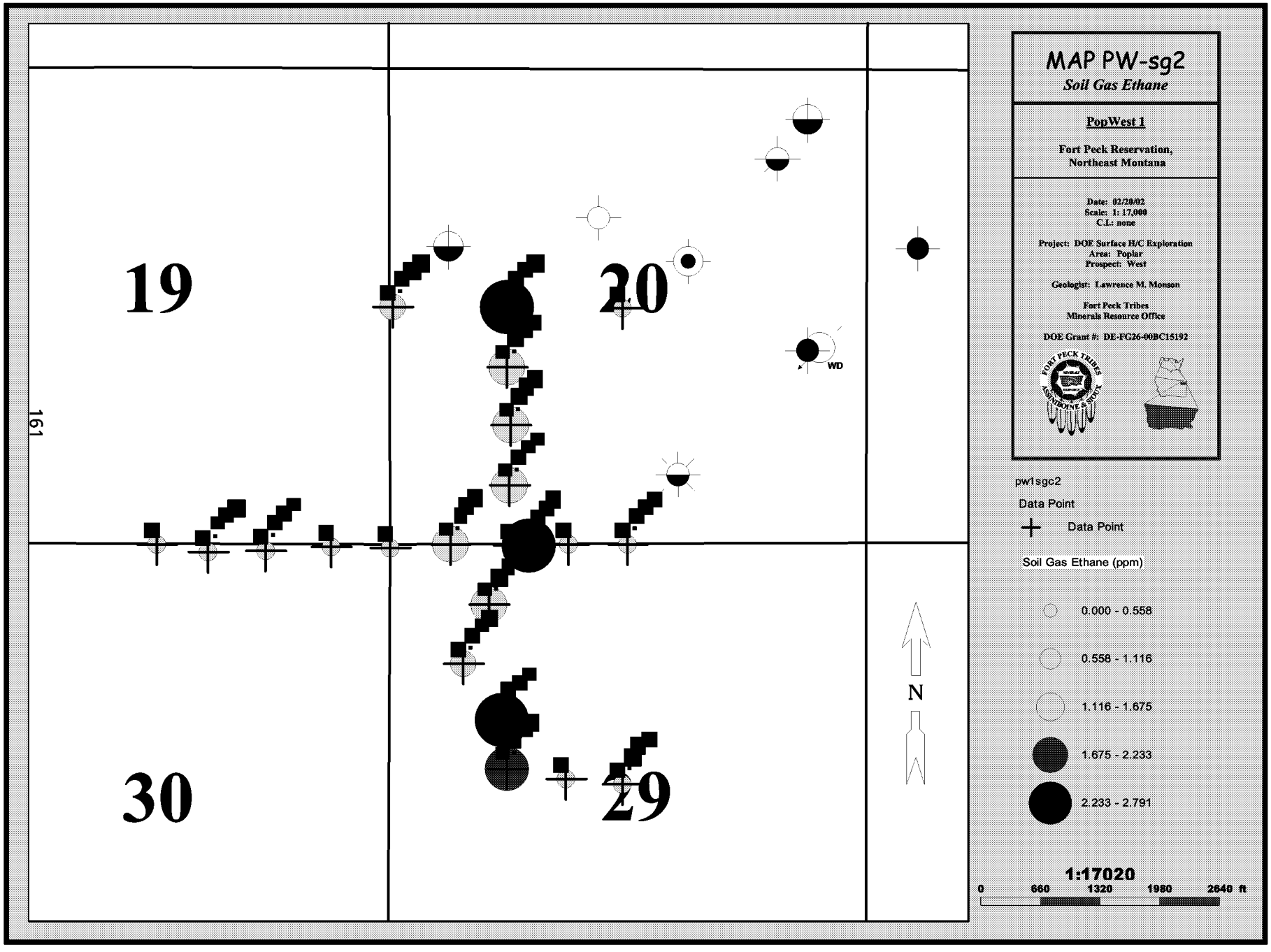
TABLE 5C: POPLAR WEST DOE NON-GAS DATA

DOESITENO				Microbial Value		Iodine				
	EH	PH	COND	**MV**	**SMV**	(ppm)		Eh /10	pH - 7 X 20	K /200
PW-1	243.2	7.36	886	66	55	1.2		24.3	7.2	4.4
PW-2	172.6	7.53	916	56	52	0.9		17.3	10.6	4.6
PW-3	-103.9	7.54	1922	34	46	1.5		-10.4	10.8	9.6
PW-4	103.2	7.3	1605	46	42	1.9		10.3	6.0	8.0
PW-5	131.9	6.64	948	41	41	1.3		13.2	-7.2	4.7
PW-6	29.9	6.87	5290	33	40	1.1		3.0	-2.6	26.5
PW-7	165.2	6.82	1087	51	44	1.9		16.5	-3.6	5.4
PW-8	167.4	8.08	934	23	34	1.0		16.7	21.6	4.7
PW-9	179.4	8.45	943	39	36	1.5		17.9	29.0	4.7
PW-10	207.6	7.17	961	67	58	1.1		20.8	3.4	4.8
PW-11	142.8	7.9	678	54	61	1.6		14.3	18.0	3.4
PW-12	147.7	7.43	616	61	63	2.1		14.8	8.6	3.1
PW-13	214.3	7.07	751	74	63	8.5		21.4	1.4	3.8
PW-14	211.9	7.78	622	61	60	1.0		21.2	15.6	3.1
PW-15	174.7	8.01	639	48	54	4.1		17.5	20.2	3.2
PW-16	200.8	8.14	781	32	35	0.9		20.1	22.8	3.9
PW-17	152	7.11	5160	43	46	0.7		15.2	2.2	25.8
PW-18	12.1	7.23	1421	39	48	1.5		1.2	4.6	7.1
PW-19	49.1	7.55	4090	54	54	0.7		4.9	11.0	20.5
PW-20	155.3	6.79	1154	73	60	1.5		15.5	-4.2	5.8
PW-21	166.8	7.07	1014	59	59	1.1		16.7	1.4	5.1
PW-22	143.5	6.87	2190	56	57	4.7		14.4	-2.6	11.0
MIN	-103.9	6.640	616	23	34	0.7		-10.4	-7.200	3
MAX	243.2	8.450	5290	74	63	8.5		24.3	29.000	26
MEAN	139.4	7.396	1573	50	50	1.9		13.9	7.918	8
STDEV	79.8	0.497	1406	14	10	1.8		8.0	9.935	7
ANOMALY (1.5)	93.0	7.893	2360	76	76	2.9		9.3	17.853	12

PopWest SG C1



PopWest SG C2



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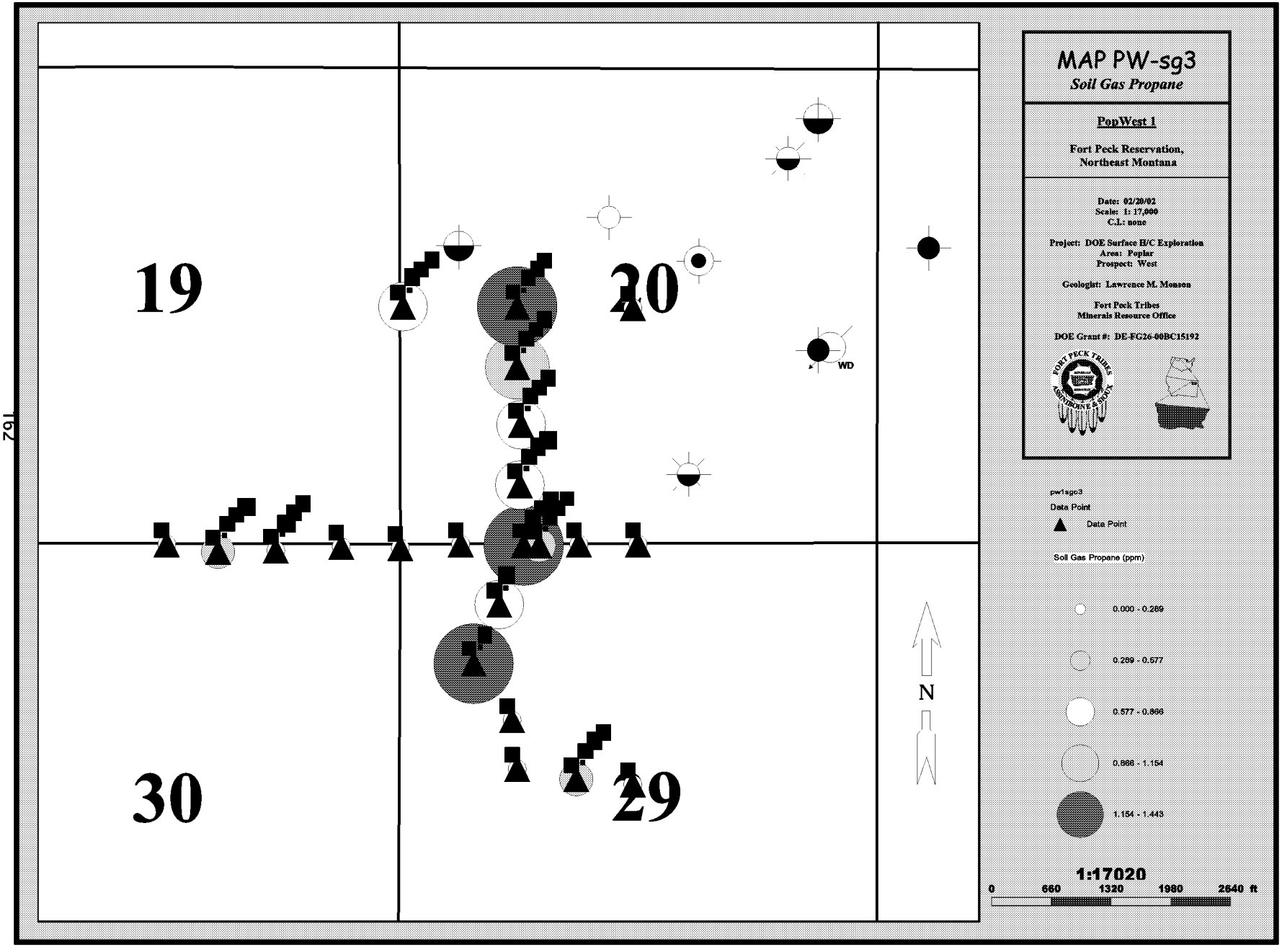
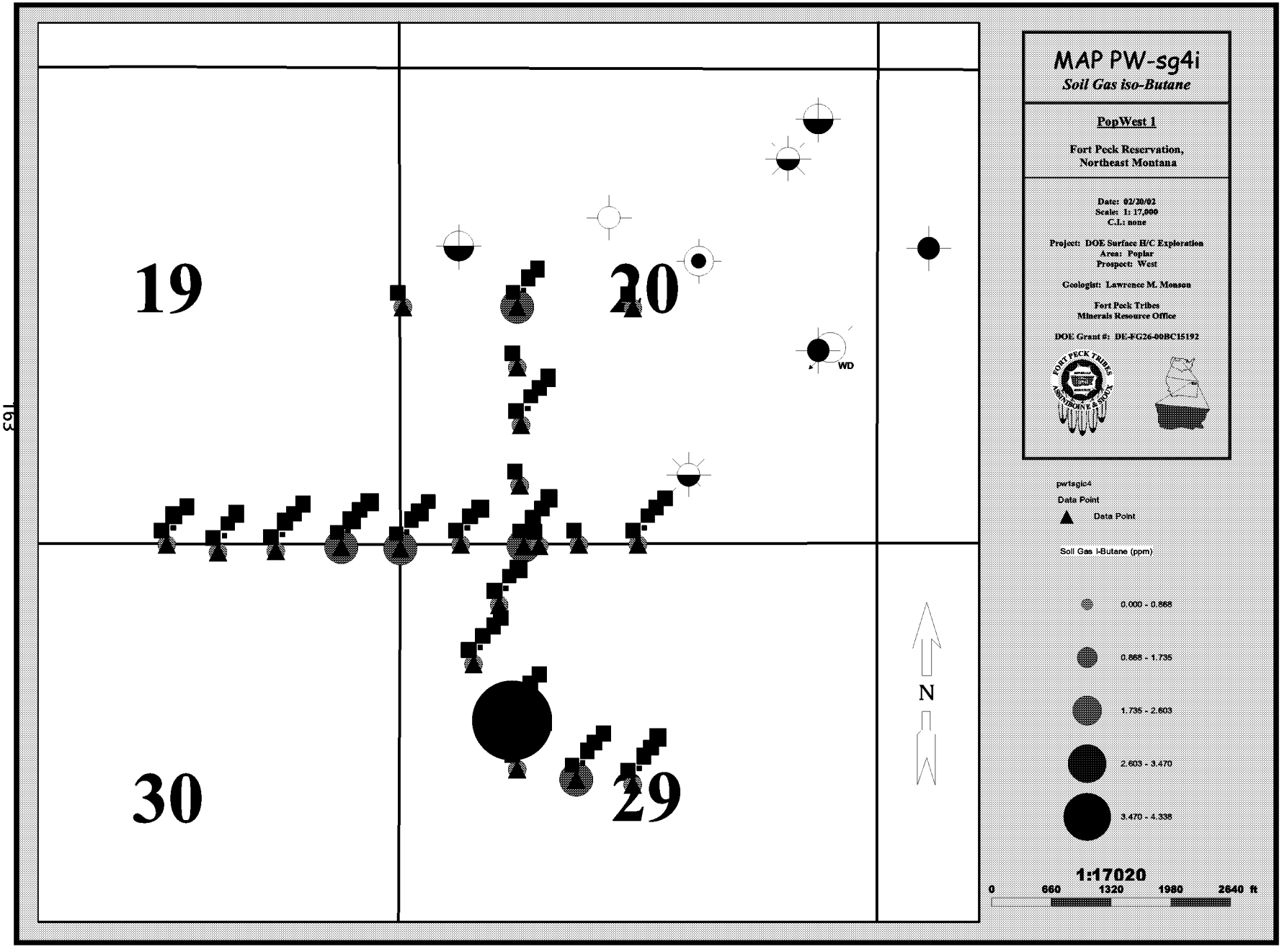


PopWest SG iC4



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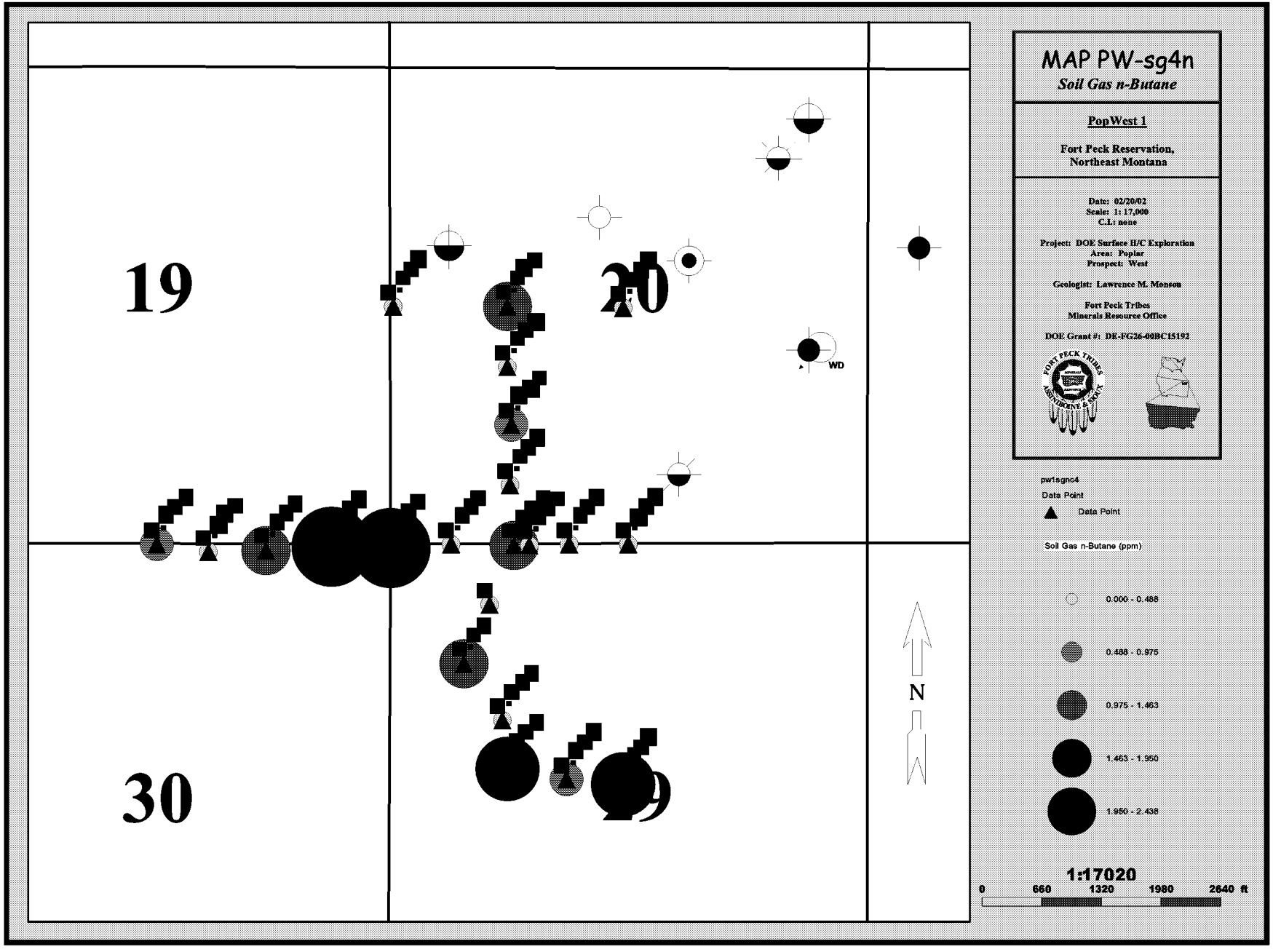
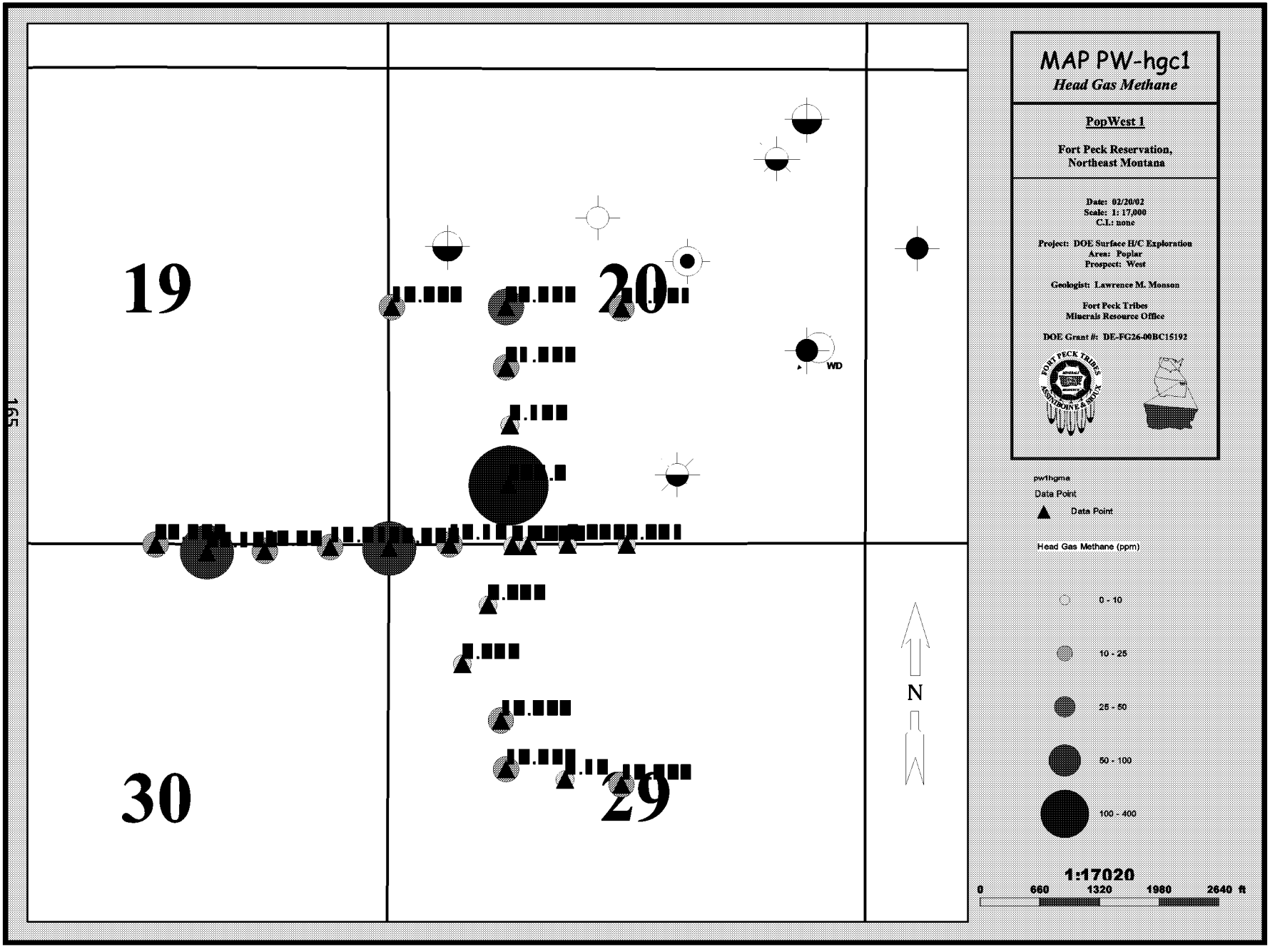


PopWest HG C1



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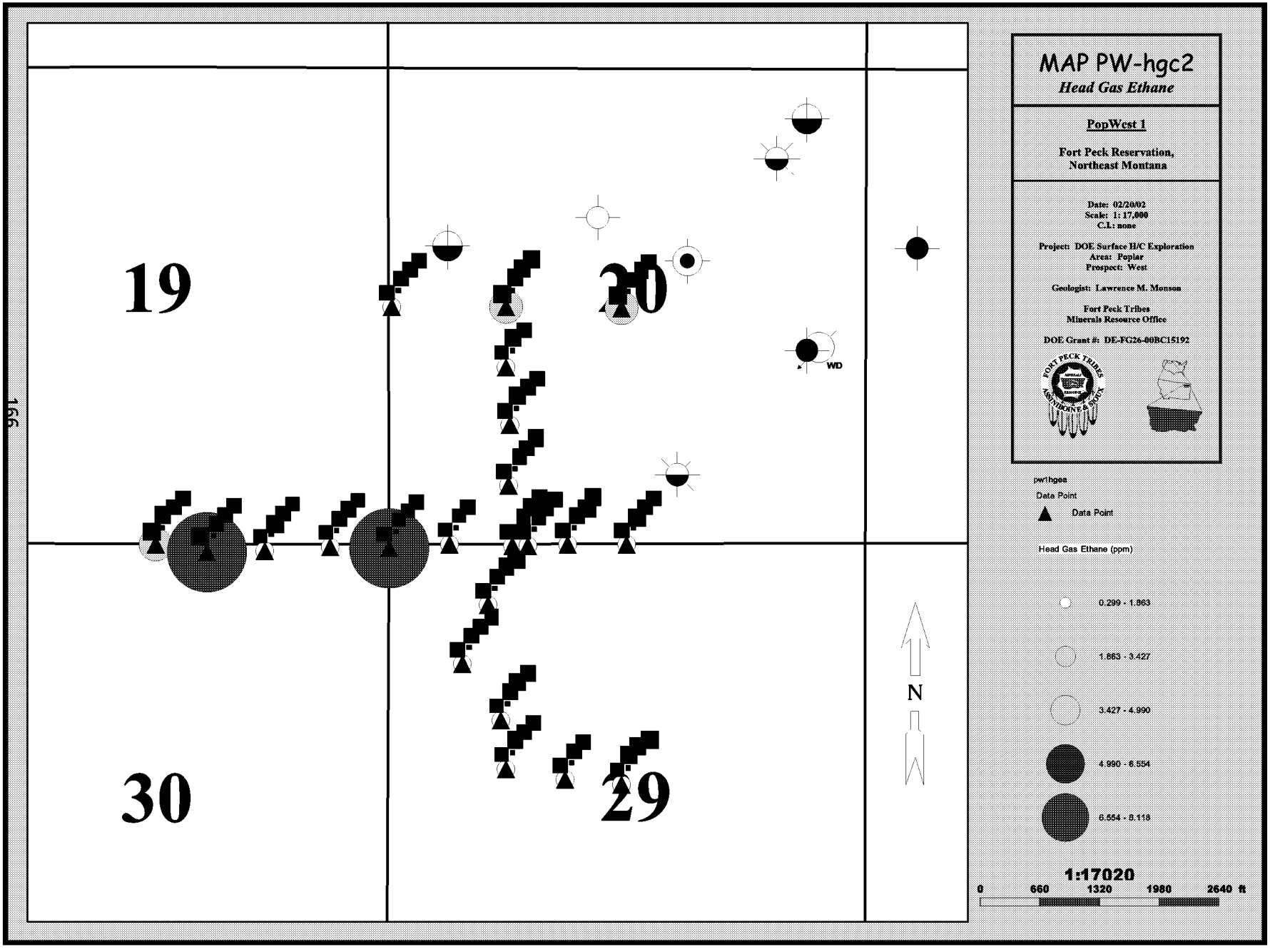

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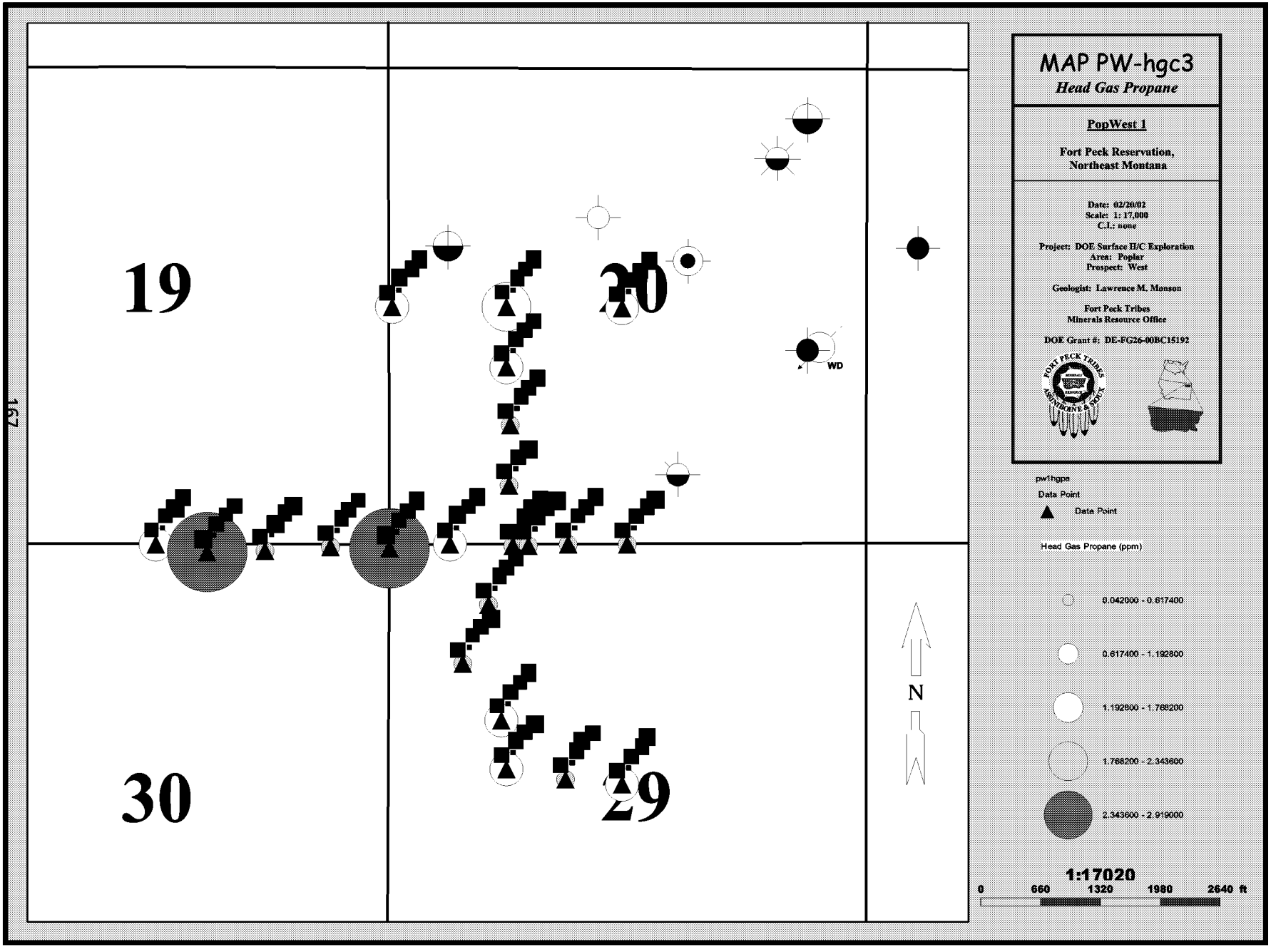
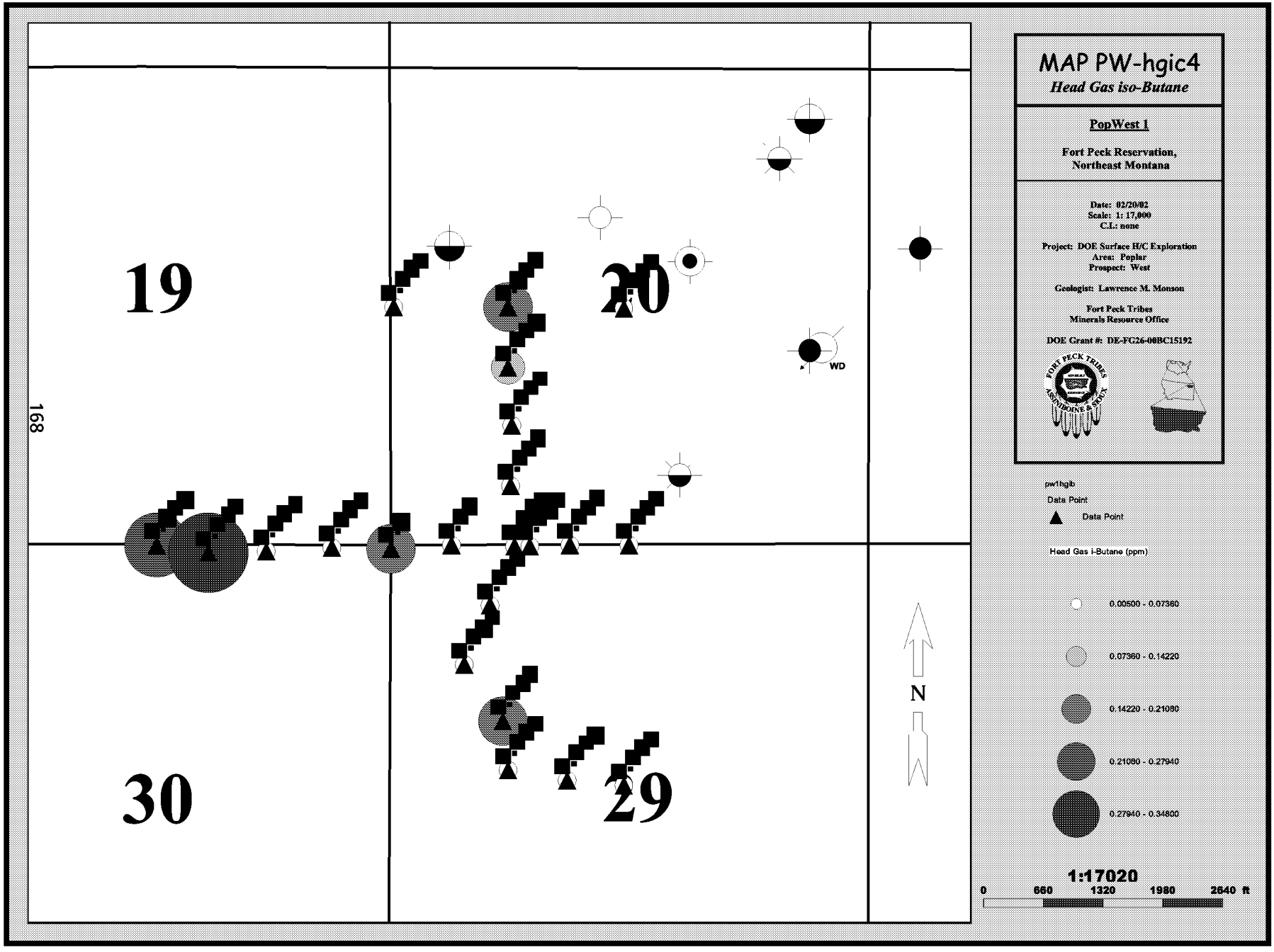


PopWest HG iC4



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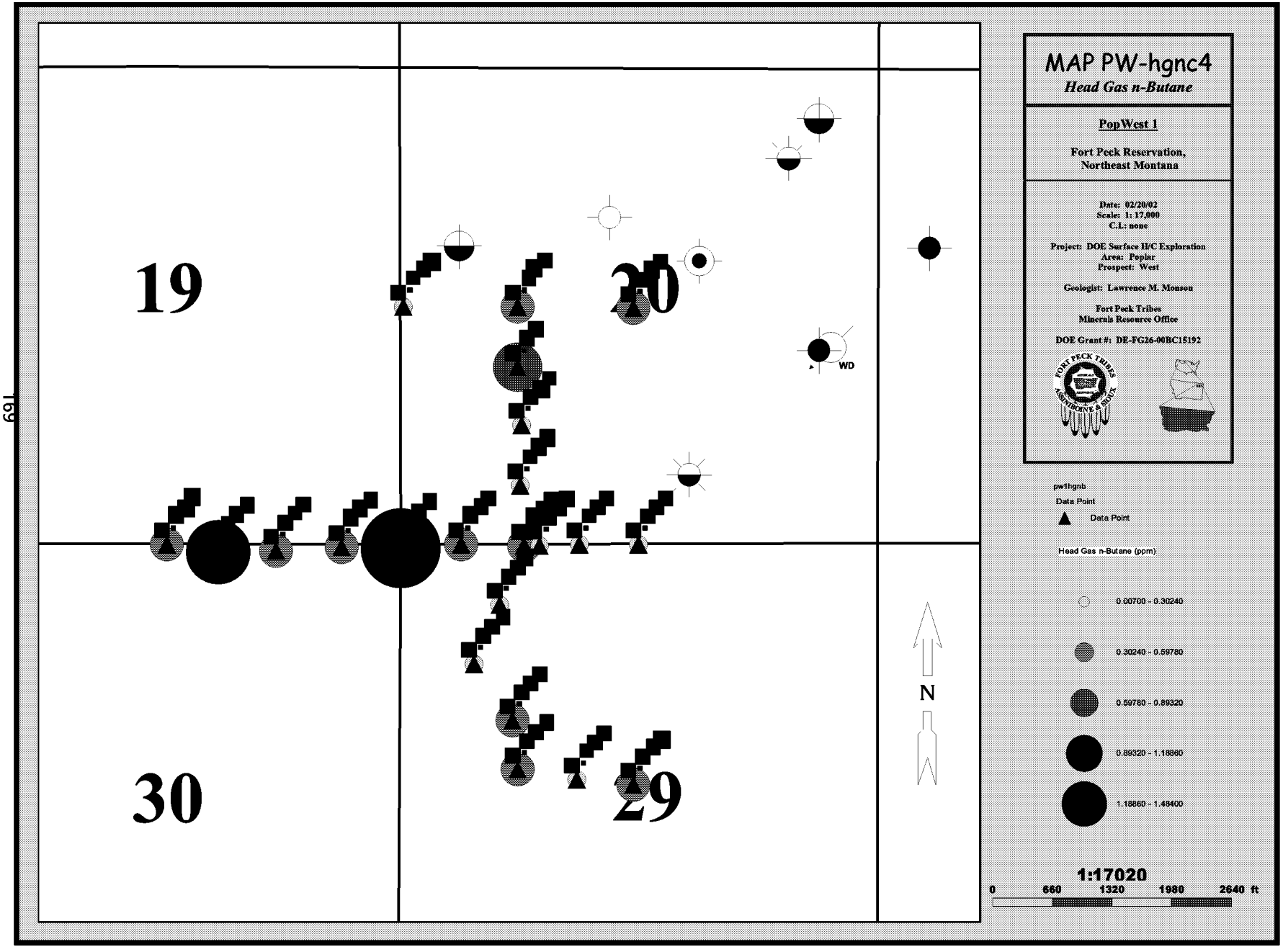
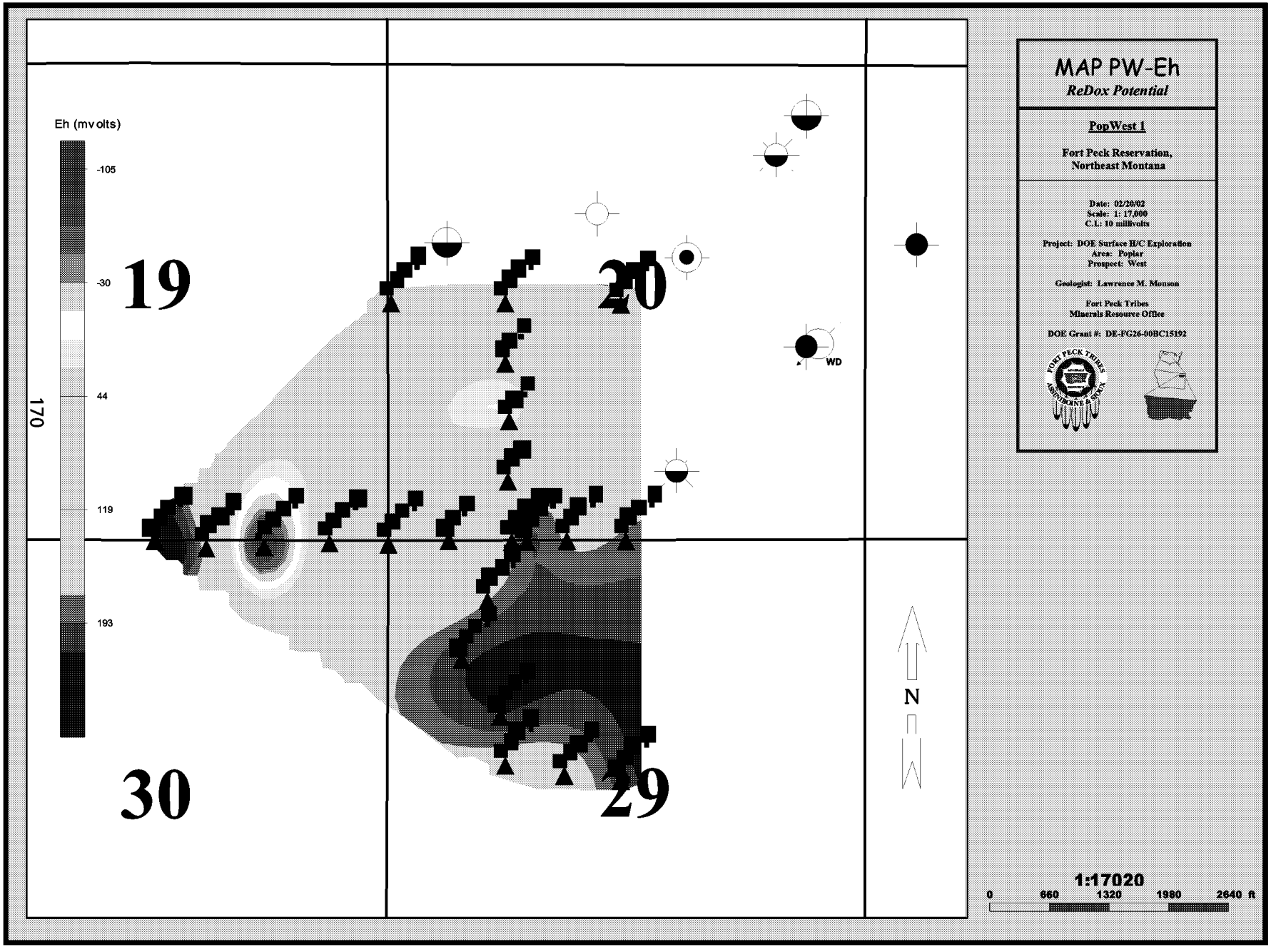
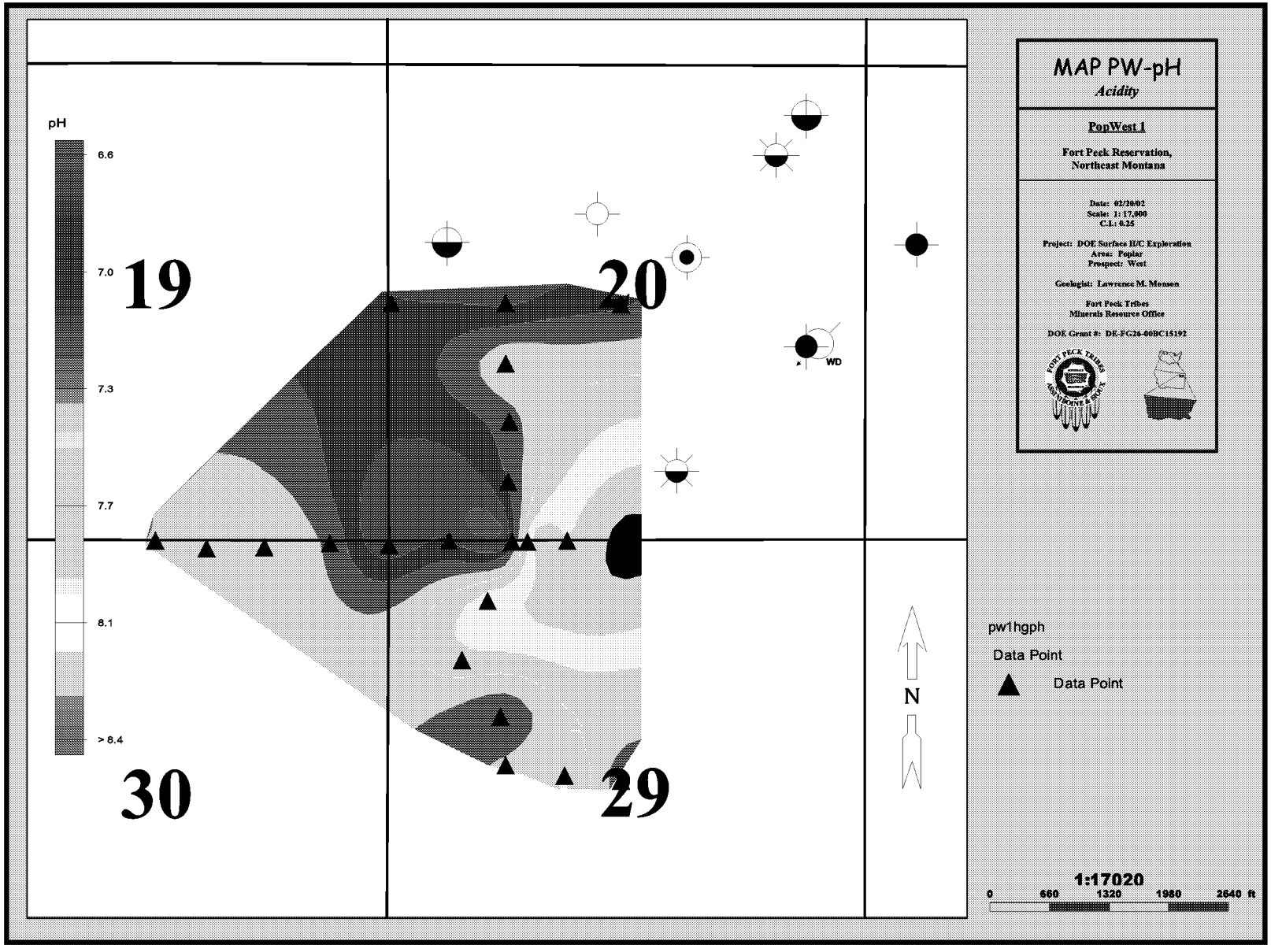


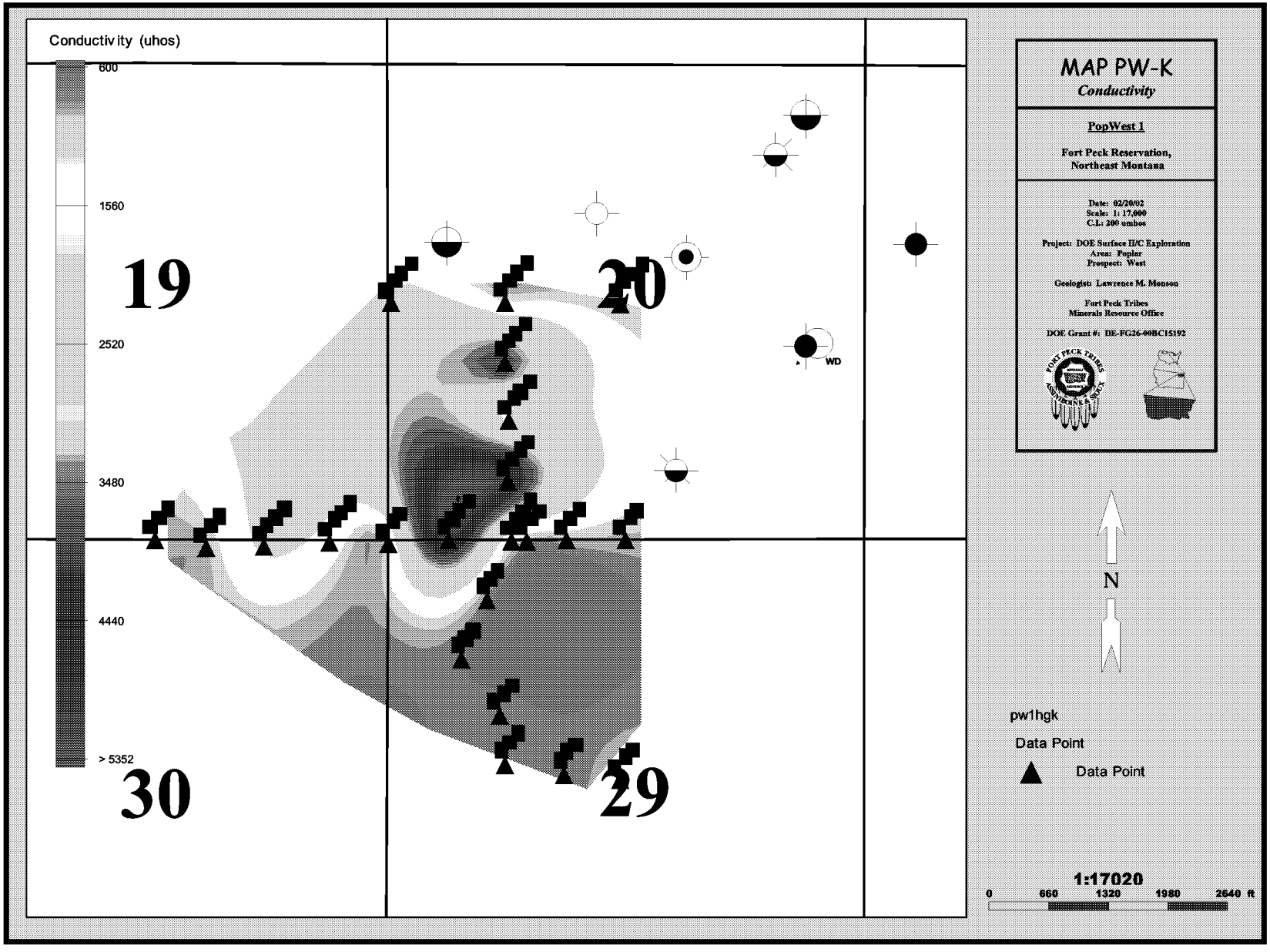
PopWest Eh


Eh (mvolts)
-105
-30
44
119
193
170
19
20
30
29
WD
N
MAP PW-Eh
ReDox Potential
PopWest 1
Fort Peck Reservation,
Northeast Montana
Date: 02/20/02
Scale: 1: 17,000
C.I.: 10 millivolts
Project: DOE Surface H/C Exploration
Area: Poplar
Prospect: West
Geologist: Lawrence M. Monson
Fort Peck Tribes
Minerals Resource Office
DOE Grant #: DE-FG26-00BC15192
FORT PECK TRIBES
ABSAROKE & SIOUX
1:17020
0
660
1320
1980
2640 ft

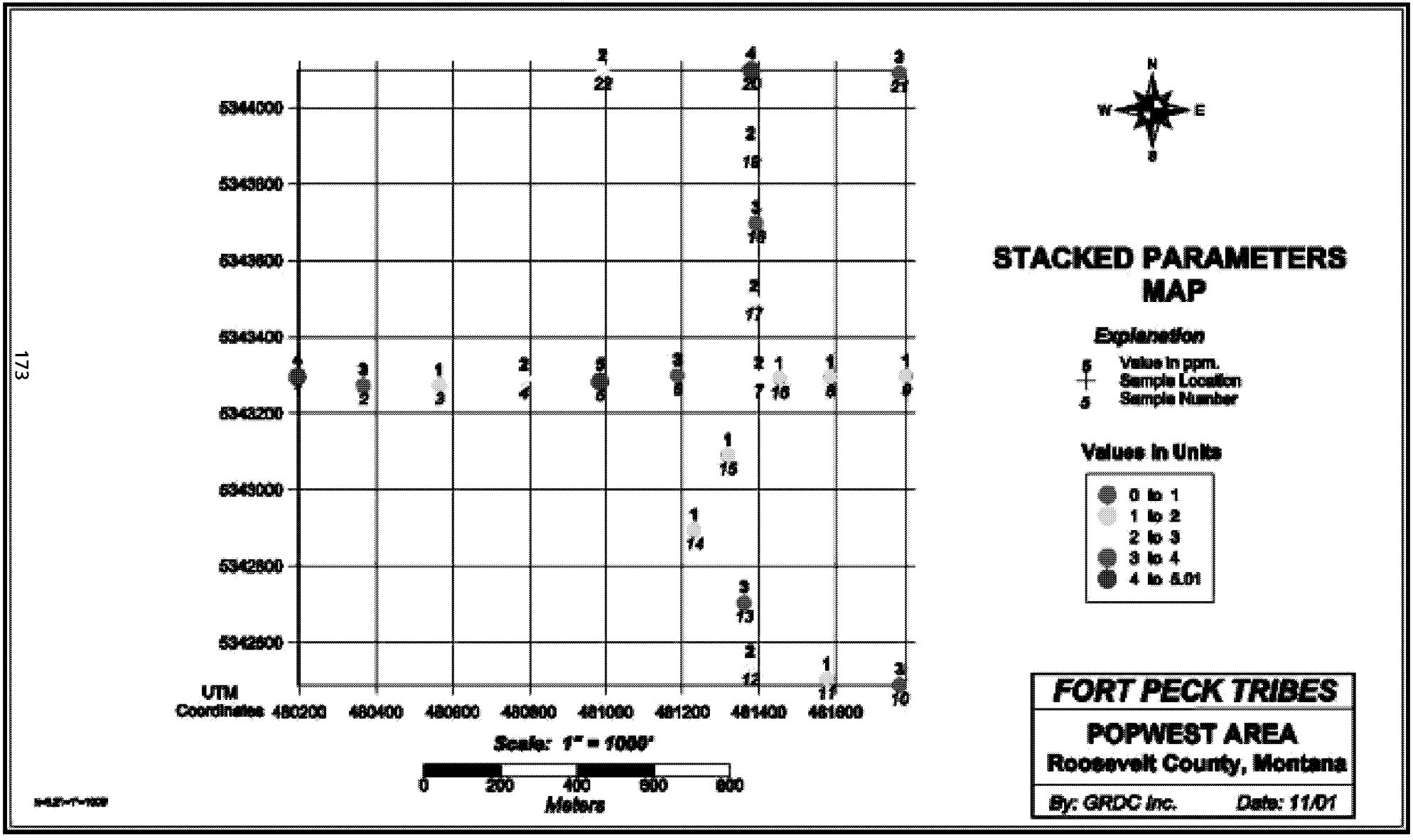
PopWest pH


MAP PW-pH
Acidity
PopWest 1
Fort Peck Reservation,
Northeast Montana
Date: 02/20/02
Scale: 1: 17,000
C.I.: 0.25
Project: DOE Surface H/C Exploration
Area: Poplar
Prospect: West
Geologist: Lawrence M. Monsen
Fort Peck Tribes
Minerals Resource Office
DOE Grant #: DE-FG26-00BC15192
pH
6.6
7.0
7.3
7.7
8.1
> 8.4
19
20
30
29
WD
N
pw1hgph
Data Point
Data Point
1:17020
0
660
1320
1980
2640 ft

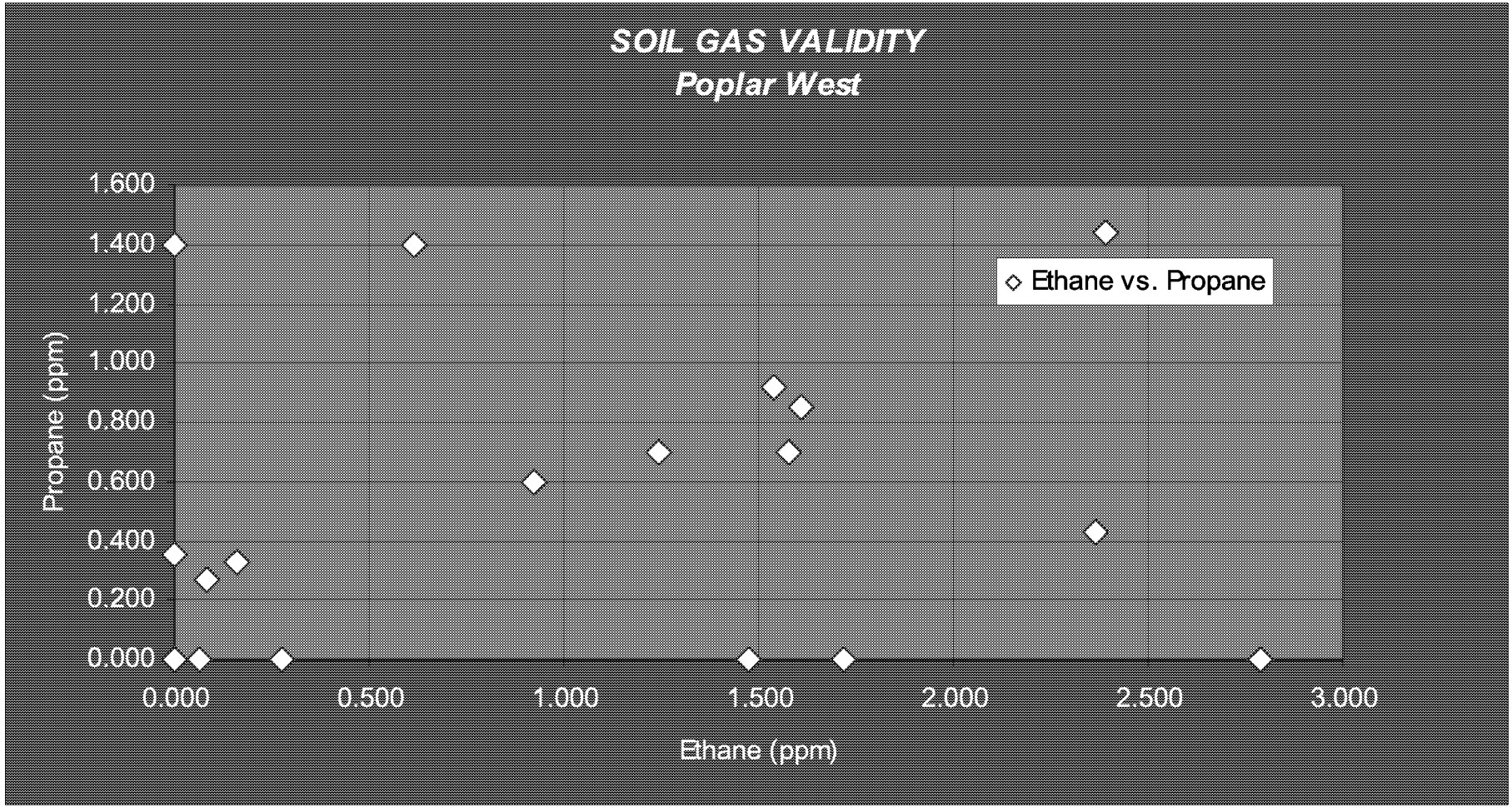
PopWest K


Conductivity (uhos)
600
1560
2520
3480
4440
> 5352
19
20
30
29
WD
MAP PW-K
Conductivity
PopWest 1
Fort Peck Reservation,
Northeast Montana
Date: 02/20/02
Scale: 1: 17,000
C.I.: 200 umhos
Project: DOE Surface H/C Exploration
Area: Poplar
Prospect: West
Geologist: Lawrence M. Monson
Fort Peck Tribes
Minerals Resource Office
DOE Grant #: DE-FG26-00BC15192
N
pw1hgk
Data Point
Data Point
1:17020
0
660
1320
1980
2640 ft

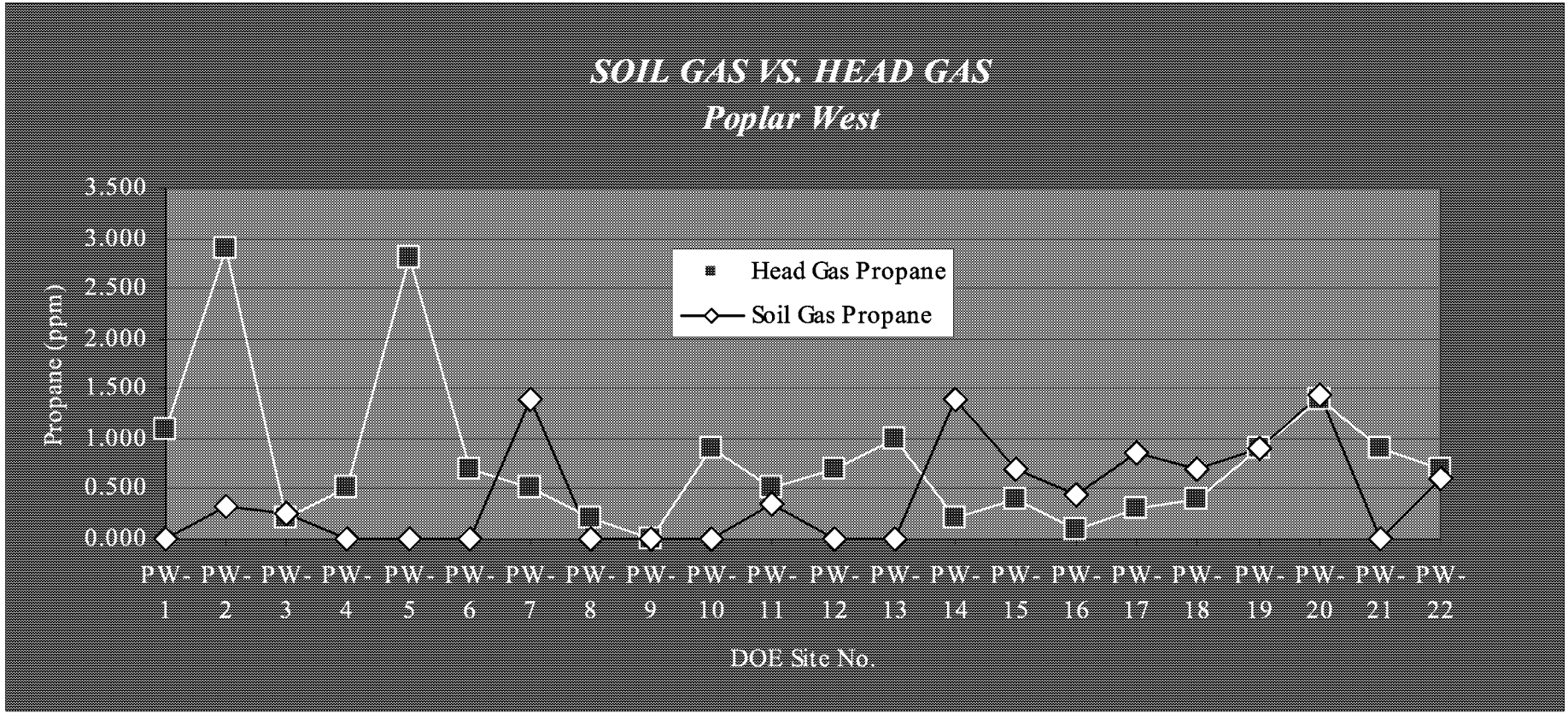
PopWest Stacked



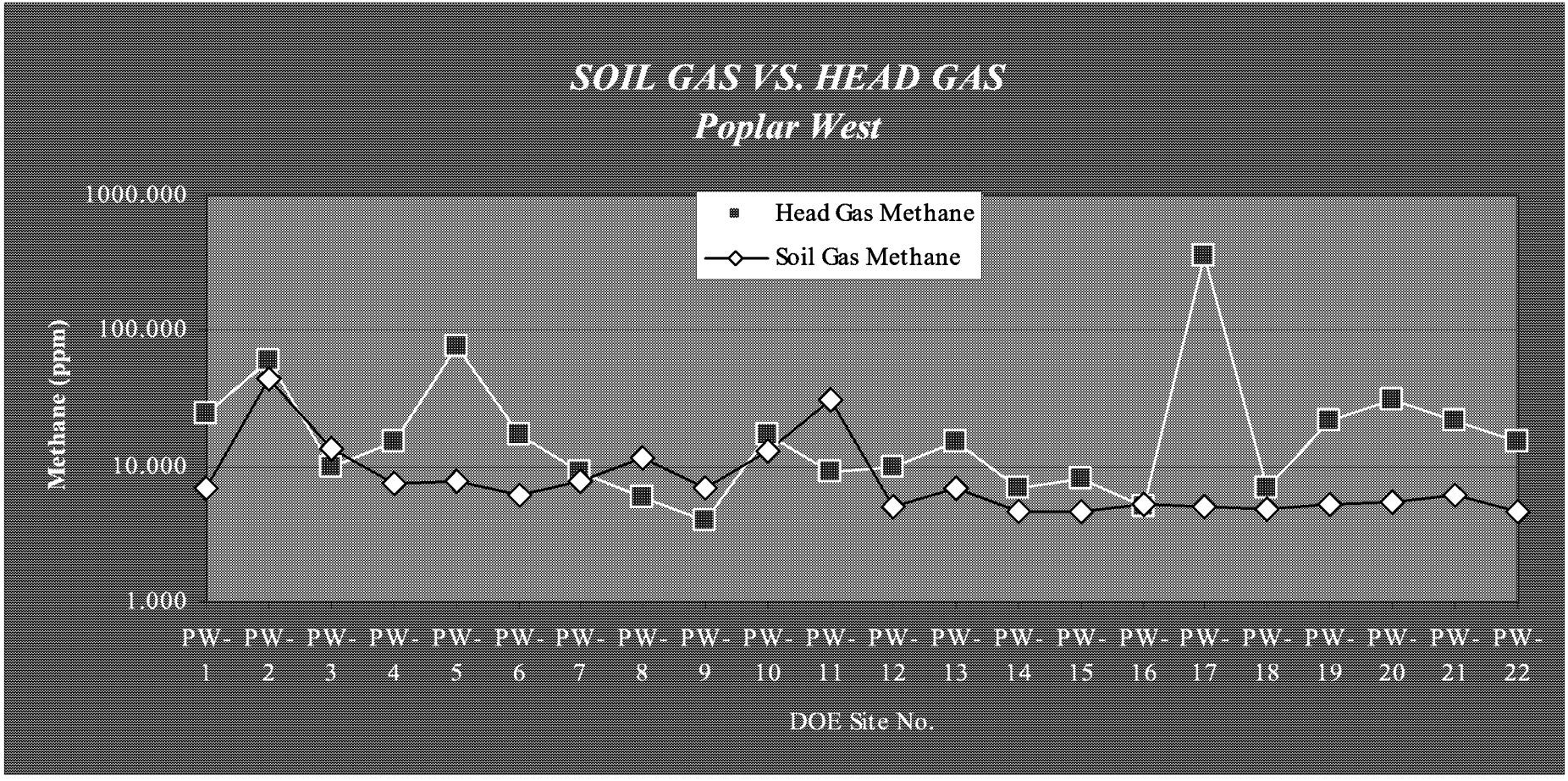
PopWest Soil Gas Validity



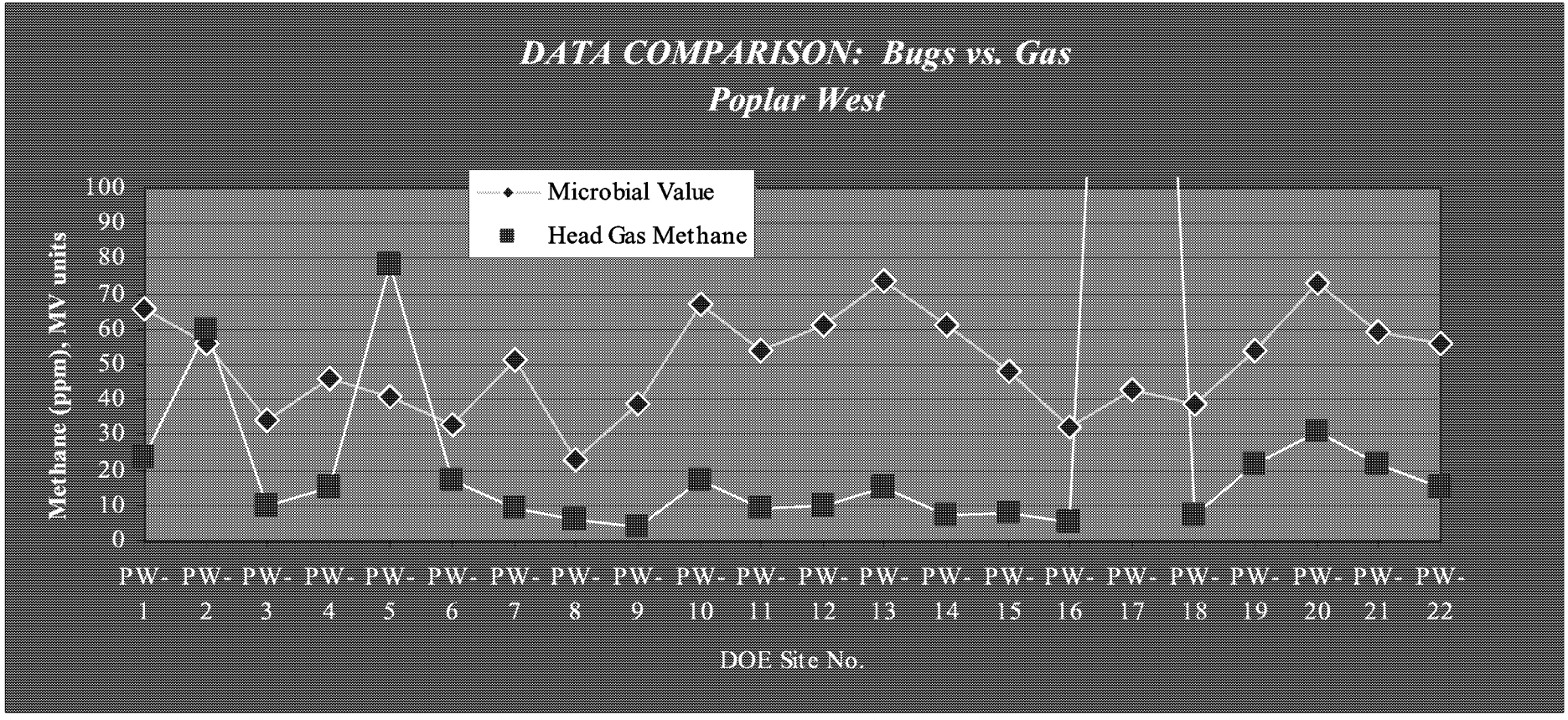
PopWest Gas Comparison 1



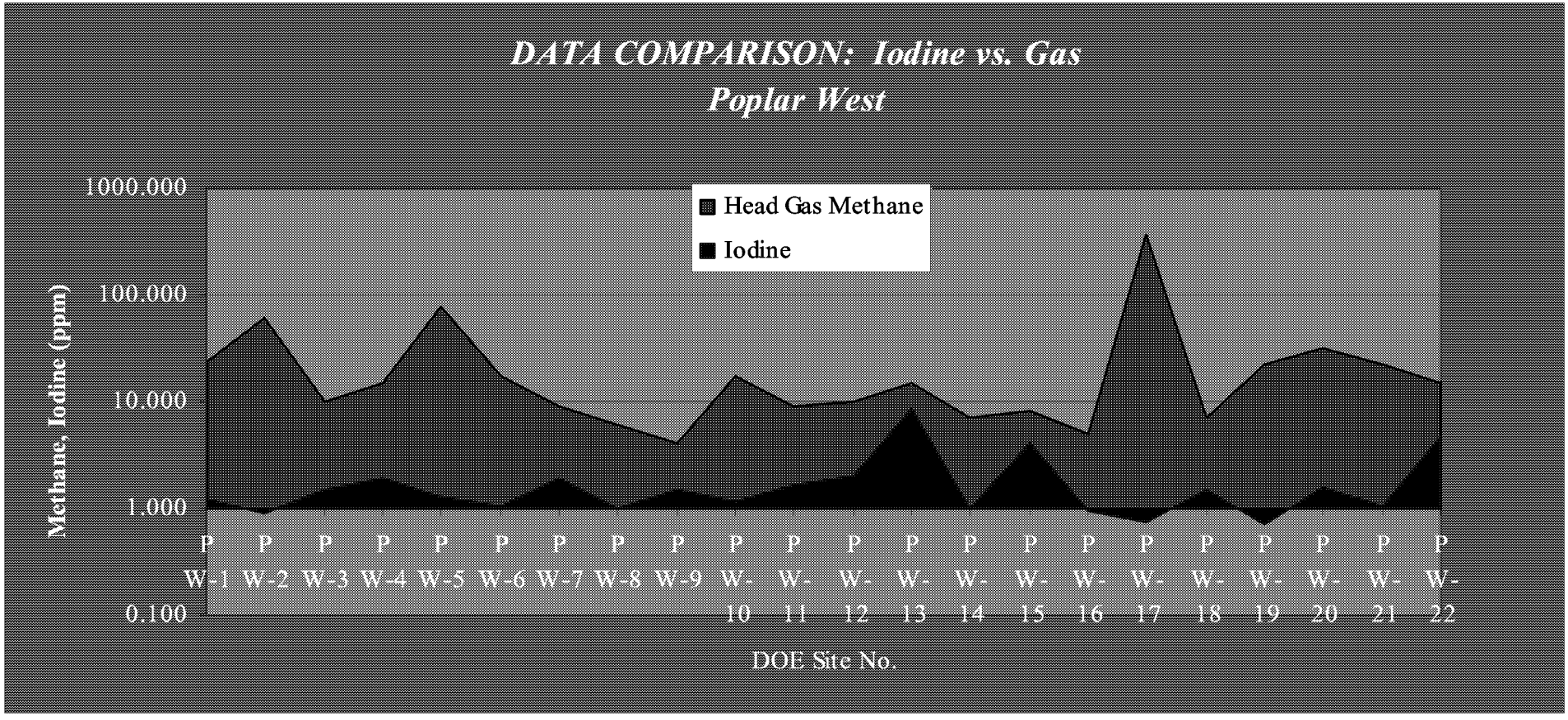
PopWest Gas Comparison 2



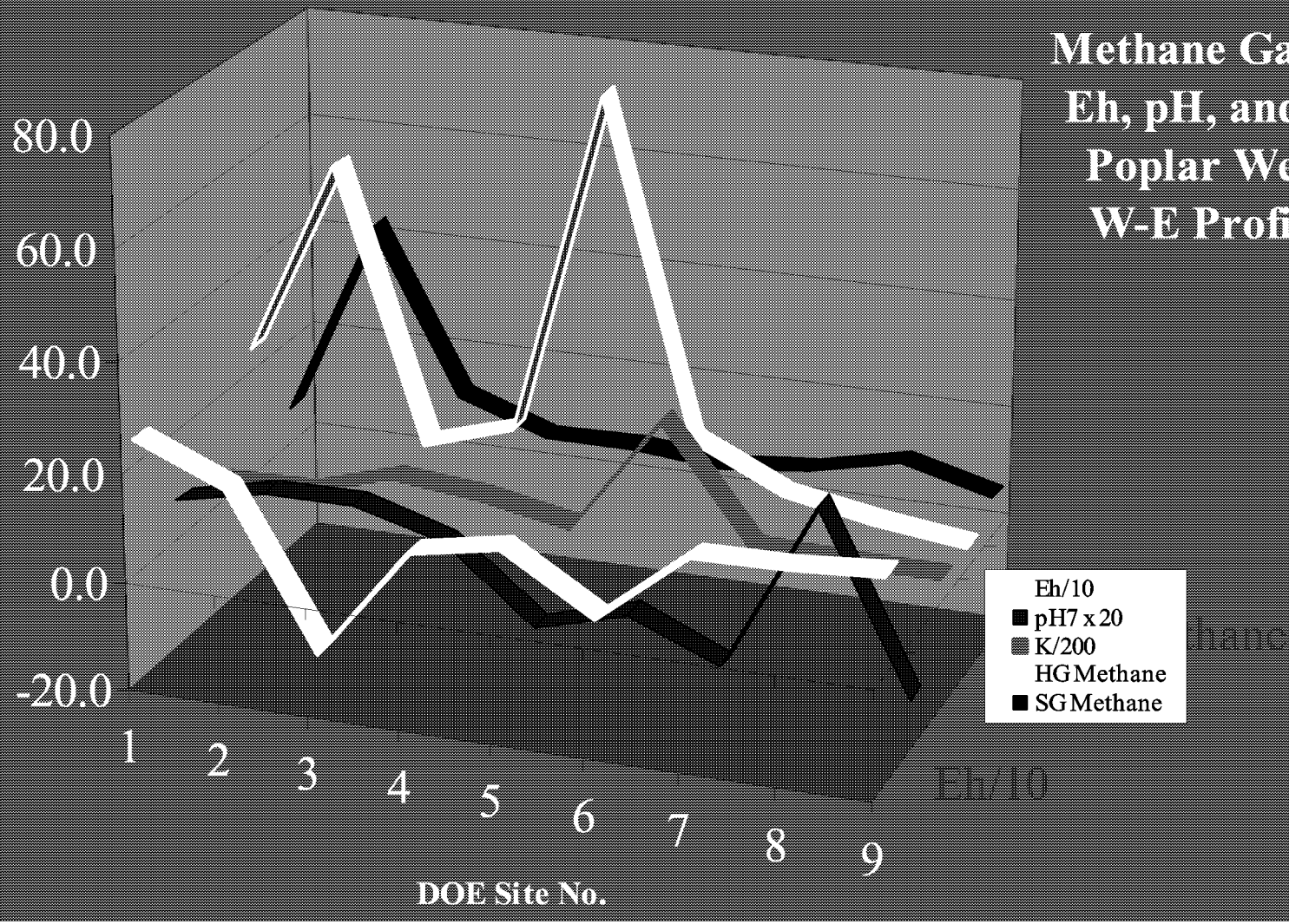
PopWest Gas vs. Microbes



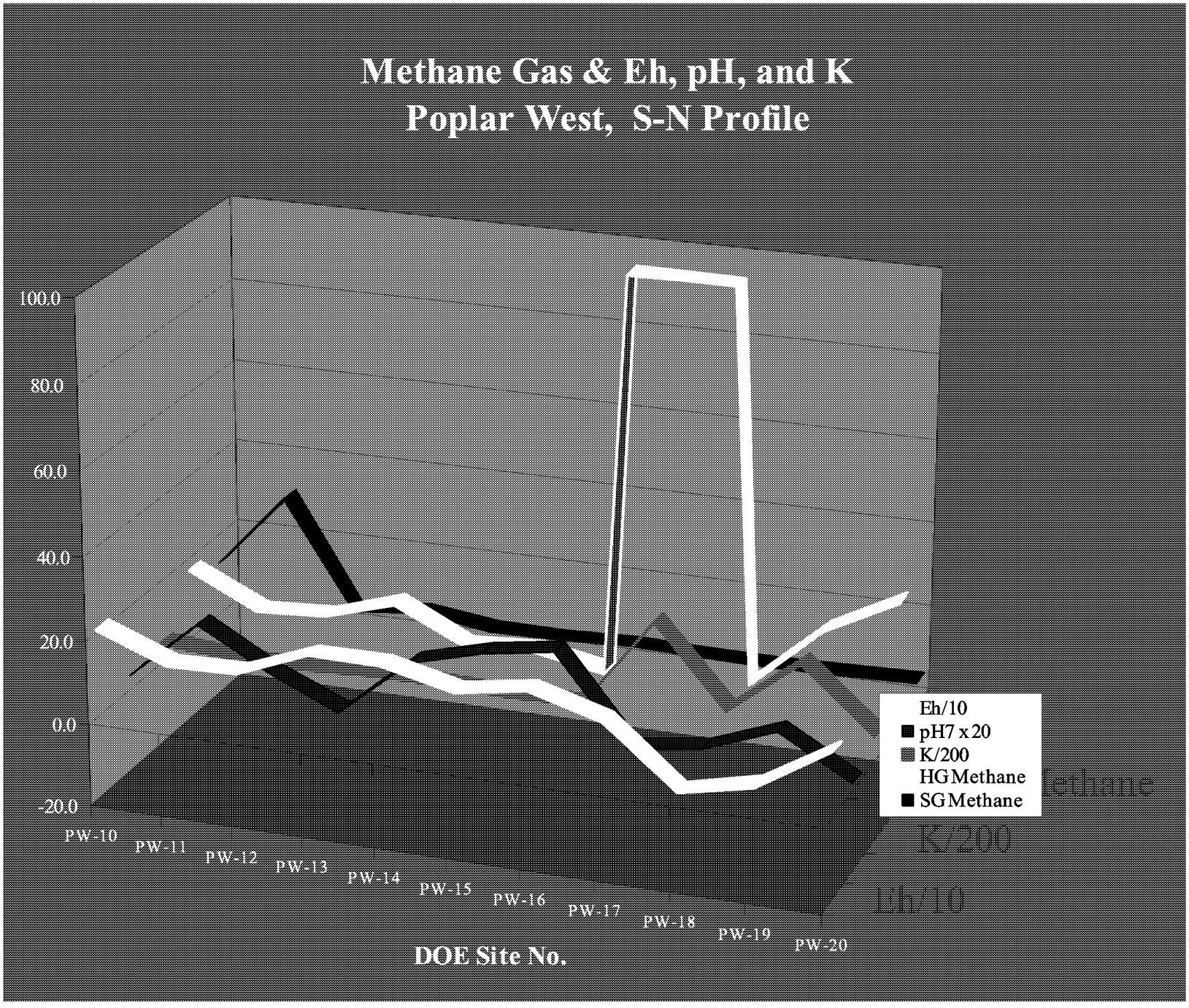
PopWest Gas vs. Iodine



PopWest C1 vs. Eh, pH, K W-E Profile



PopWest C1 vs. Eh, pH, K S-N Profile



PHASE II CONCLUSIONS & RECOMMENDATIONS

- Magnetic Susceptibility survey of Area 1 found three prospects.
- One already had gas anomalies.
- Site 26 was confirmed as an excellent hydrocarbon prospect.
- SC Mag Core not confirmed.
- SC Mag Core "bubbles" not confirmed.
- Lobo West MS anomaly not confirmed as H/C bearing.
- Poplar West Shallow Gas Prospect inconclusive.

- Await Mr. Land's Report
- Filter regular mag data for HF.
- Promote Site 26 as an oil prospect and plan for more updip soil sampling to the NW.
- Correlate other MS data to "bubble" geometries.
- Plot all data as ratios to anomaly threshold (1.5 x mean)
- Locate other 3D prospects for sampling.
- Re-sample on a better grid.

APPENDIX 1

TABLE 1A: DOE AREA1 MAGNETIC DATA LOCATIONS

a1maggps		TABLE1A: DOE AREA 1 SMOKE CREEK MAG DATA LOCATIONS									
							UTM-Y	UTM-X		MPH	
DOESITENO	VEGETATION	SLOPE	SOIL	MOISTURE	AIRTEMP	BAROMETER	LATITUDE	LONGITUDE	WEATHER	WIND	LINE
SC37	grass	gentle	loam	dry	90	28.5	5372236.7490	505111.27553342	sunny	0-3	235
SC38	grass	gentle	loam	dry	90	28.5	5372238.4915	505420.59608732	sunny	0-3	235
SC39	summerfallow	flat	loam	dry	90	28.5	5372229.0173	505732.68514767	sunny	0-3	235
SC40	summerfallow	flat	loam	dry	90	28.3	5372229.3147	506059.13088531	sunny	0-5	235
SC41	summerfallow	flat	loam	dry	90	28.3	5372229.5236	506386.25652133	sunny	0-5	235
SC42	grass	flat	loam	dry	90	28.3	5372227.3755	506740.88983969	sunny	0-6	235
SC43	grass	flat	loam	dry	90	28.3	5372228.0480	507048.69184593	sunny	0-6	235
SC44.1	grass	flat	loam	dry	90	28.3	5372228.5707	507382.35967544	sunny	3-8	235
SC44.2	grass	flat	loam	dry	90	28.3	5372229.8759	507692.52986214	sunny	0-8	235
SC46	grass	gentle	loam	dry	90	28.3	5372230.7979	508005.88372605	sunny	0-8	235
SC47	grass	gentle	silt	dry	90	28.3	5372231.6450	508341.48345993	sunny	0-8	235
SC48	grass	gentle	loam	dry	90	28.4	5372233.3189	508658.31444420	sunny	0-8	235
SC49	grass	gentle	gravel	dry	90	28.4	5372233.9749	508988.11085633	partly overcast	5-10	235
SC50	grass	gentle	gravel	dry	89	28.4	5371756.7429	509308.51291128	partly overcast	5-10	235
SC51	grass	gentle	gravel	dry	87	28.5	5371404.0183	509888.37313614	partly overcast	5-10	235
SC52	grass	steep	silt	dry	87	28.5	5370805.9179	509900.29391389	partly overcast	5-10	235
SC53	bare	flat	loam	dry	89	28.5	5370626.0092	510134.93567653	partly overcast	5-12	235
SC54	grass	gentle	silt	dry	90	28.5	5370630.6927	510491.53353746	partly overcast	5-12	235
SC55	grass	flat	gravel	dry	90	28.5	5370634.8182	510816.06803926	partly overcast	5-12	235
SC56	grass	gentle	loam	dry	91	28.5	5370637.0023	511128.58854192	partly overcast	5-10	235
SC57	grass	gentle	silt	dry	91	28.5	5370638.1179	511424.14814321	partly overcast	5-12	235
SC58	grass	gentle	loam	dry	91	28.5	5370639.8669	511783.23110100	partly overcast	5-12	235
SC59	grass	flat	silt	dry	92	28.5	5370639.6202	512092.10070436	partly overcast	5-12	235
SC60	grass	flat	silt	dry	93	28.5	5370641.0645	512412.26466392	partly overcast	5-12	235
SC61	grass	flat	loam	dry	93	28.5	5370643.1506	512727.92519780	sunny	5-12	235
SC62	grass	flat	loam	dry	93	28.6	5370643.9797	513073.15240368	sunny	5-12	235
SC63	weeds	flat	loam	dry	94	28.6	5370644.6717	513390.82628956	sunny	5-15	235
SC64	grass	flat	loam	dry	94	28.5	5370645.8294	513692.64943387	sunny	5-15	235
SC65	bare	flat	loam	dry	93	28.5	5370646.9179	514002.04346912	sunny	5-15	235
SC66	bare	flat	silt	dry	93	28.5	5370649.8985	514337.50300139	sunny	5-20	235
SC67	grass	gentle	loam	dry	93	28.5	5370650.9407	514644.65274382	sunny	5-20	235
SC68	grass	gentle	loam	dry	93	28.5	5370653.0204	514994.34608047	sunny	5-20	235
SC69	grass	gentle	loam	dry	93	28.4	5370655.1605	515300.22035331	sunny	5-20	235
SC70	grass	gentle	loam	dry	93	28.4	5370658.0064	515630.76620934	sunny	5-25	235
SC71	grass	flat	loam	dry	93	28.4	5370659.2454	515955.42522081	sunny	5-25	235
SC72	summerfallow	flat	loam	dry	93	28.5	5370659.8885	516266.35296031	sunny	5-25	235
SC73	weeds	gentle	loam	dry	93	28.3	5370662.3569	516599.83978557	sunny	5-15	235
SC74	weeds	flat	silt	dry	93	28.3	5370664.3575	516894.95868522	sunny	5-20	235
SC75	grass	flat	silt	dry	94	28.3	5370665.5868	517274.05487295	sunny	5-20	235
SC76	grass	flat	loam	dry	95	28.3	5370665.0962	517545.68557516	sunny	5-15	235
SC77	grass	gentle	sand	dry	94	28.3	5370665.8056	517888.08107804	sunny	5-20	235
SC78	summerfallow	flat	gravel	dry	94	28.3	5370668.7243	518214.56417520	sunny	5-15	235
SC79	bare	gentle	sand	dry	94	28.3	5370670.8537	518514.73195706	sunny	5-15	235
SC80	summerfallow	flat	silt	dry	94	28.3	5370672.5043	518848.55525221	sunny	5-15	235
SC81	grass	flat	gravel	dry	93	28.3	5370674.1593	519205.52546199	sunny	5-10	235
SC82	grass	flat	loam	damp	73	28.5	5370674.7841	519484.87730855	partly overcast	5-15	235
SC82	grass	flat	silt	dry	93	28.3	5370675.0858	519484.15694712	sunny	5-20	235
SC83	grass	flat	loam	damp	73	28.5	5370675.1155	519695.49788955	sunny	5-25	235
SC84	grass	flat	loam	damp	73	28.5	5370676.4585	519952.03987875	sunny	5-25	235
SC85	grass	flat	loam	damp	75	28.5	5370676.8553	520235.98196198	sunny	5-20	235
SC86	grass	flat	loam	damp	75	28.5	5370678.0932	520517.69192623	raining	5-25	235
SC87	grass	flat	loam	damp	75	28.6	5370679.8883	520805.20933538	partly overcast	8-20	235
SC88	grass	flat	loam	damp	75	28.7	5370680.1578	521097.60043019	partly overcast	8-25	235
SC89	grass	flat	loam	damp	76	28.7	5370681.5830	521383.01428161	partly overcast	8-25	235
SC90	grass	flat	loam	damp	76	28.8	5370682.2729	521584.71549748	partly overcast	8-25	235
SC91	grass	flat	loam	damp	76	28.8	5370683.3816	521732.27308264	partly overcast	8-25	235
SC92	grass	flat	loam	damp	77	28.8	5370683.3610	521915.41974602	partly overcast	8-25	235
SC93	summerfallow	gentle	loam	damp	77	28.8	5370685.3191	522301.73061155	partly overcast	10-25	235
SC94	summerfallow	flat	loam	damp	77	28.8	5370684.8069	522660.40770356	partly overcast	10-25	235
SC95	stubble	flat	loam	damp	77	28.9	5370686.2579	522966.70843929	partly overcast	10-25	235
SC96	summerfallow	flat	loam	damp	76	28.9	5370687.4254	523286.95562977	partly overcast	10-25	235
SC97	grass	gentle	gravel	damp	76	28.9	5370688.8580	523695.75211078	partly overcast	10-25	235
SC98	grass	gentle	silt	damp	77	28.9	5370691.7120	524247.12188632	partly overcast	25	235
SC99	grass	gentle	sand	dry	77	28.9	5370693.0407	524581.97333615	partly overcast	15-25	235
SC100	grass	gentle	loam	damp	77	28.9	5370693.9637	524874.37278611	partly overcast	10-25	235
SC101	grass	gentle	loam	damp	77	29.0	5370694.0104	525192.69452580	partly overcast	15-25	235
SC102	weeds	flat	silt	dry	77	29.0	5370696.0871	525536.30984033	partly overcast	10-20	235
SC103	weeds	flat	silt	damp	78	29.0	5370697.1221	525910.86869929	partly overcast	10-25	235
SC104	summerfallow	flat	loam	damp	78	29.0	5370698.7778	526194.84151676	partly overcast	10-25	235
SC105	grass	gentle	silt	damp	78	28.4	5370700.8115	526515.96987859	partly overcast	10-25	235
SC106	weeds	gentle	silt	damp	78	29.0	5370701.5577	526834.43667774	partly overcast	10-25	235

TABLE 1A: DOE AREA1 MAGNETIC DATA LOCATIONS

DOESITENO	VEGETATION	SLOPE	SOIL	MOISTURE	AIRTEMP	BAROMETER	LATITUDE	LONGITUDE	WEATHER	WIND	LINE
SC107	summerfallow	gentle	silt	damp	78	29.0	5370702.9335	527134.79603781	partly overcast	10-25	235
SC108	summerfallow	gentle	loam	damp	78	29.1	5370705.5157	527470.56530106	partly overcast	10-25	235
SC109	grass	gentle	loam	dry	78	29.0	5359431.7099	526783.30311124	sunny	5-18	242
SC110	grass	flat	loam	dry	78	29.0	5359417.3112	526622.82458091	sunny	5-20	242
SC111	grass	flat	loam	dry	78	29.0	5359416.3021	526337.22859403	sunny	5-20	242
SC112	grass	flat	loam	dry	78	29.0	5359411.1300	526021.43599109	sunny	5-20	242
SC113	summerfallow	flat	silt	dry	78	29.0	5359425.1955	525680.01651960	sunny	5-20	242
SC114	summerfallow	flat	loam	dry	78	29.0	5359424.3297	525373.65653529	sunny	5-20	242
SC115	stubble	flat	loam	dry	78	29.0	5359422.7406	525036.64764180	sunny	5-20	242
SC116	stubble	flat	loam	dry	79	29.0	5359422.5394	524719.72461088	sunny	5-15	242
SC117	summerfallow	flat	loam	dry	79	29.0	5359424.5907	524399.58899457	sunny	5-20	242
SC118	stubble	flat	loam	dry	80	29.0	5359426.0296	524061.54132329	sunny	5-15	242
SC119	grass	flat	loam	dry	80	29.0	5359424.6002	523743.47958966	sunny	5-20	242
SC120	weeds	gentle	gravel	damp	80	29.1	5359346.9257	523440.29435678	sunny	2-15	242
SC121	grass	gentle	gravel	dry	80	29.1	5359412.2200	523196.99357662	sunny	5-20	242
SC122	grass	flat	silt	dry	80	29.1	5359408.5212	522861.83196173	sunny	2-20	242
SC123	grass	gentle	loam	dry	81	29.1	5358615.9562	523025.72455571	sunny	5-10	242
SC124	stubble	flat	loam	dry	81	29.1	5358609.3471	522574.34433988	sunny	5-15	242
SC125	grass	gentle	loam	dry	81	29.1	5358609.4825	522242.53382843	sunny	10	242
SC126	weeds	gentle	clay	damp	81	29.1	5358602.2043	521915.66755080	sunny	5-10	242
SC127	grass	flat	loam	damp	81	29.1	5358604.2784	521592.50410268	sunny	5-18	242
SC128	grass	flat	loam	dry	81	28.1	5358597.5545	521263.86621679	sunny	5-15	242
SC129	bare	flat	loam	dry	81	29.3	5358616.9807	520857.12763688	sunny	0-10	242
SC130	weeds	flat	loam	dry	81	29.3	5358617.4114	520581.04685259	sunny	0-10	242
SC131	grass	flat	loam	dry	81	29.3	5358616.3307	520294.97430250	sunny	5-10	242
SC132	grass	flat	silt	dry	82	29.3	5358615.5505	520096.88683671	sunny	5-20	242
SC133	stubble	flat	silt	dry	82	29.3	5358613.9815	519818.15360385	sunny	8-20	242
SC134	grass	flat	sand	dry	82	29.3	5358611.1007	519530.33806996	sunny	3-22	242
SC135	grass	flat	loam	dry	82	29.3	5358608.7483	519241.92374467	sunny	5-15	242
SC136	grass	flat	clay	dry	82	29.3	5358615.3556	518941.33318201	sunny	5-15	242
SC137	summerfallow	flat	silt	dry	83	29.3	5358607.3541	518620.15098205	sunny	5-20	242
SC138	grass	gentle	sand	dry	83	29.3	5358611.8483	518297.92237484	sunny	15	242
SC139	grass	gentle	sand	dry	83	29.2	5358604.2172	517948.95857520	sunny	16	242
SC140	stubble	flat	loam	dry	83	29.2	5358603.5027	517651.47886795	sunny	5-12	242
SC141	summerfallow	gentle	silt	dry	83	29.1	5358600.7994	517321.43139337	sunny	5-15	242
SC142	summerfallow	gentle	loam	dry	85	29.0	5358928.5008	517169.28549497	sunny	12	242
SC143	summerfallow	gentle	loam	dry	84	29.1	5359392.5693	517172.46342898	sunny	5-15	242
SC144	bare	gentle	gravel	dry	84	29.0	5359396.2549	516832.42112737	partly overcast	0-10	242
SC145	summerfallow	flat	loam	dry	85	29.0	5359396.7669	516509.59351867	partly overcast	5-15	242
SC146	grass	flat	clay	dry	85	29.0	5359387.8333	516143.12055085	sunny	5-15	242
SC147	grass	flat	gravel	dry	85	29.0	5359255.1798	515546.43878680	sunny	5-20	242
SC148	grass	gentle	sand	dry	84	29.0	5359564.7235	515474.43447051	sunny	16	242
SC149	grass	flat	clay	dry	84	28.8	5359511.1737	515186.96112073	partly overcast	8-25	242
SC150	grass	gentle	sand	dry	84	28.8	5359427.1677	514865.76581805	sunny	8-20	242
SC151	summerfallow	flat	loam	dry	85	28.8	5359396.1828	514383.28170163	sunny	8-20	242
SC152	stubble	gentle	loam	dry	85	28.9	5359394.1663	514073.39974667	sunny	14	242
SC153	grass	gentle	loam	dry	85	28.8	5359384.4116	513760.05417117	sunny	18	242
SC154	weeds	gentle	silt	dry	85	28.4	5359395.7530	513430.14439614	sunny	18	242
SC155	grass	flat	sand	dry	85	28.3	5359383.8595	513132.01605349	sunny	15	242
SC156	grass	gentle	clay	dry	87	28.2	5359387.7630	512785.94659117	sunny	15	242
SC157	grass	flat	loam	dry	86	28.3	5359387.5865	512465.96238444	sunny	15	242
SC158	summerfallow	flat	loam	damp	87	28.4	5359379.2466	512165.31231365	sunny	15-25	242
SC159	summerfallow	steep	loam	damp	86	28.3	5359383.8669	511841.25183609	sunny	15	242
SC160	summerfallow	steep	silt	damp	86	28.2	5359376.1585	511530.96745259	partly overcast	10-20	242
SC161	summerfallow	gentle	silt	dry	87	28.2	5359375.3464	511184.29816784	sunny	12	242
SC162	summerfallow	gentle	loam	dry	87	28.3	5359366.6508	510860.02607390	sunny	5-15	242
SC163	stubble	flat	loam	dry	87	28.5	5359373.4896	510555.30544858	partly overcast	5-18	242
SC164	grass	steep	clay	dry	85	28.5	5359358.0236	510215.98270303	partly overcast	10-20	242
SC165	stubble	gentle	loam	dry	86	28.5	5359378.7618	509906.77924474	sunny	10-20	242
SC166	stubble	gentle	loam	dry	87	28.5	5359381.5026	509610.84838513	sunny	18	242
SC167	summerfallow	flat	loam	dry	87	28.6	5359378.2502	509251.77649295	sunny	8-172	242
SC168	summerfallow	flat	silt	dry	87	28.7	5359377.5905	508947.04006729	sunny	12-25	242
SC169	summerfallow	flat	loam	dry	87	28.7	5359375.8470	508631.58092312	partly overcast	15	242
SC170	stubble	flat	loam	dry	87	28.6	5359375.6137	508304.13785702	sunny	18	242
SC171	summerfallow	flat	loam	damp	69	30.0	5359375.8915	508002.75680421	partly overcast	5-10	242
SC171	summerfallow	flat	loam	dry	88	28.7	5359376.3159	508006.09047497	sunny	16	242
SC172	summerfallow	flat	loam	damp	70	30.0	5359373.3972	507483.15829089	partly overcast	0-8	242
SC173	stubble	gentle	loam	damp	70	30.0	5359373.7053	507176.64713354	partly overcast	0-7	242
SC174	summerfallow	gentle	loam	damp	70	30.0	5359377.1119	506808.52022180	partly overcast	0-8	242
SC175	stubble	gentle	loam	dry	70	30.0	5359367.3314	506547.97481449	partly overcast	0-8	242
SC176	stubble	flat	loam	dry	70	29.0	5359376.0362	506237.80061293	sunny	0-5	242
SC177	stubble	flat	loam	dry	64	29.0	5359375.5011	505909.52917777	partly overcast	0-6	242
SC178	summerfallow	flat	loam	damp	65	29.0	5359373.7346	505576.05997221	sunny	8	242

TABLE 1A: DOE AREA1 MAGNETIC DATA LOCATIONS

DOESITENO	VEGETATION	SLOPE	SOIL	MOISTURE	AIRTEMP	BAROMETER	LATITUDE	LONGITUDE	WEATHER	WIND	LINE
SC179	summerfallow	gentle	loam	dry	68	29.0	5359366.8213	505226.83572093	partly overcast	0-7	242
SC180	summerfallow	flat	loam	dry	68	29.8	5359372.5861	504896.84858655	partly overcast	0-10	242
SC181	stubble	flat	loam	dry	63	29.7	5359371.4428	504591.89032919	partly overcast	0.9	242
SC182	grass	flat	silt	dry	63	29.8	5359372.3515	504272.51072661	partly overcast	0-10	242
SC183	summerfallow	flat	clay	dry	70	29.8	5352929.3176	506728.26307938	sunny	0-9	140
SC184	summerfallow	flat	clay	dry	75	29.7	5353214.9168	506732.26856767	sunny	0-10	140
SC185	stubble	flat	clay	dry	67	29.8	5353552.9654	506732.22739161	sunny	5	140
SC186	grass	flat	clay	dry	68	29.7	5353856.3379	506732.83227183	partly overcast	5-10	140
SC187	bare	flat	loam	dry	68	29.8	5354197.8273	506731.53887648	sunny	5-15	140
SC188	summerfallow	flat	loam	dry	69	29.9	5354530.4230	506731.07034441	partly overcast	8-20	140
SC189	summerfallow	flat	clay	dry	67	28.8	5354841.2276	506729.72240276	partly overcast	10	140
SC190	stubble	flat	loam	dry	68	29.9	5355133.9060	506729.81332063	partly overcast	10	140
SC191	stubble	flat	loam	dry	70	29.9	5355445.3609	506730.18617902	partly overcast	5-19	140
SC192	grass	steep	loam	dry	70	29.9	5355794.0519	506729.78756103	partly overcast	7-18	140
SC193	grass	gentle	loam	dry	70	29.8	5356115.3156	506729.41330126	partly overcast	0-10	140
SC194	summerfallow	gentle	loam	dry	70	29.8	5356489.7218	506729.35134207	partly overcast	4-12	140
SC195	summerfallow	gentle	clay	dry	70	30.0	5356760.7052	506729.16734130	partly overcast	3-12	140
SC196	grass	gentle	loam	dry	72	30.0	5357071.7179	506728.26731753	partly overcast	5-15	140
SC197	summerfallow	gentle	silt	dry	71	30.0	5357410.6462	506728.09518403	partly overcast	5-18	140
SC198	summerfallow	gentle	silt	dry	72	30.0	5357697.7362	506728.46092071	partly overcast	4-9	140
SC199	summerfallow	flat	loam	dry	72	30.0	5358051.4641	506727.63408110	partly overcast	0-10	140
SC200	summerfallow	gentle	loam	dry	72	30.0	5358333.3191	506727.87292478	partly overcast	0-10	140
SC201	grass	gentle	loam	dry	75	29.6	5358682.5646	506728.60632326	partly overcast	5-20	140
SC202	bare	gentle	loam	dry	75	30.0	5358993.2417	506728.45965783	partly overcast	5-17	140
SC203	summerfallow	gentle	loam	dry	74	30.0	5359310.8135	506724.32691198	partly overcast	5-12	140
SC204	summerfallow	gentle	loam	dry	72	30.0	5357765.3820	505130.62127951	partly overcast	12	140
SC205	stubble	gentle	loam	dry	74	29.5	5358029.5923	505120.82235284	partly overcast	15	140
SC206	grass	gentle	loam	dry	74	29.5	5358321.1825	505120.61692224	partly overcast	5-12	140
SC207	summerfallow	flat	loam	dry	74	29.5	5358694.1820	505121.42539042	partly overcast	15	140
SC208	summerfallow	gentle	silt	dry	75	29.5	5358962.4408	505120.92045565	partly overcast	0-10	140
SC209	summerfallow	gentle	silt	dry	74	29.5	5359322.6579	505119.96898493	partly overcast	5-15	140
SC210	stubble	flat	loam	dry	74	29.5	5359622.1127	505121.55174882	partly overcast	5-20	140
SC211	stubble	flat	loam	dry	75	29.5	5359942.7530	505120.18843691	partly overcast	5-20	140
SC212	grass	gentle	loam	dry	75	29.5	5360287.0167	505120.08261916	partly overcast	5-20	140
SC213	grass	gentle	loam	dry	75	29.5	5360900.8212	505118.86420770	partly overcast	5-18	140
SC214	stubble	gentle	loam	dry	75	29.5	5361197.8785	505118.02748336	partly overcast	18	140
SC215	grass	flat	loam	dry	74	29.5	5361577.2493	505117.61544485	partly overcast	10-25	140
SC216	grass	flat	loam	dry	75	29.5	5361876.4644	505116.43775493	partly overcast	5-20	140
SC217	grass	flat	loam	dry	73	29.5	5362170.0723	505116.25924030	partly overcast	8-10	140
SC218	summerfallow	gentle	loam	dry	75	29.5	5362503.9614	505133.53467241	partly overcast	8-20	140
SC219	grass	gentle	loam	dry	73	29.5	5362800.6289	505201.42980024	partly overcast	18	140
SC220	grass	steep	gravel	dry	73	29.8	5363093.3039	505315.30019137	cloudy	10-20	140
SC221	weeds	gentle	silt	dry	73	29.8	5363409.4986	505443.31276874	cloudy	10-20	140
SC222	grass	gentle	silt	dry	72	29.8	5363723.4082	505560.71482212	cloudy	10-25	140
SC223	weeds	gentle	silt	dry	72	29.8	5364042.5429	505548.16624509	cloudy	10-27	140
SC224	summerfallow	flat	silt	dry	72	29.7	5364297.7361	505393.10556403	cloudy	10-25	140
SC225	stubble	flat	loam	dry	71	29.7	5364558.1335	505210.70200319	cloudy	12-25	140
SC226	weeds	flat	loam	dry	72	29.7	5364855.7176	505116.68931654	cloudy	20	140
SC227	summerfallow	flat	silt	dry	72	29.8	5365187.2675	505112.30610236	cloudy	12-25	140
SC228	stubble	flat	loam	dry	70	29.7	5365508.2509	505111.47578250	cloudy	12-25	140
SC229	weeds	flat	loam	dry	71	29.8	5365813.8665	505112.47723720	cloudy	12-25	140
SC230	weeds	flat	loam	dry	70	29.7	5366121.7245	505112.19120139	sunny	17	140
SC231	weeds	flat	silt	dry	72	29.6	5366449.9358	505111.96787709	cloudy	17	140
SC232	summerfallow	gentle	loam	dry	71	29.7	5366780.3760	505111.10757725	cloudy	18	140
SC233	grass	flat	silt	dry	71	29.7	5367106.5571	505110.22948304	cloudy	8-18	140
SC234	grass	gentle	loam	dry	70	29.7	5367409.0360	505109.78461262	cloudy	19	140
SC235	stubble	gentle	loam	dry	71	29.9	5367717.1675	505110.16719280	cloudy	14-25	140
SC236	summerfallow	gentle	silt	dry	70	29.9	5368046.0204	505110.23807660	cloudy	15-25	140
SC237	weeds	gentle	gravel	dry	70	29.7	5368390.0675	505110.64815815	cloudy	12-26	140
SC238	stubble	gentle	sand	dry	70	29.7	5368687.8067	505110.49242927	cloudy	10-20	140
SC239n	bare	steep	clay	dry	71	29.7	5369360.7129	505110.13450228	cloudy	14-27	140
SC239s	bare	gentle	loam	dry	70	29.7	5368997.4231	505110.83072434	cloudy	8-18	140
SC241	weeds	flat	loam	dry	71	29.5	5369682.2944	505110.42710579	cloudy	15	140
SC242	bare	gentle	gravel	dry	70	29.7	5369818.4511	505488.59361549	cloudy	14	140
SC243	weeds	gentle	silt	dry	70	29.5	5369818.7447	505810.33817684	cloudy	17	140
SC244	grass	gentle	gravel	dry	74	29.6	5369819.2166	506089.86349937	cloudy	10-17	140
SC245	grass	gentle	loam	dry	74	29.5	5369819.2071	506413.58516970	cloudy	10-17	140
SC246	weeds	flat	loam	dry	75	29.5	5369847.5539	506710.03198887	cloudy	10-20	140
SC247	weeds	gentle	loam	dry	73	30.0	5370197.4321	506717.55915273	cloudy	10	140
SC248	stubble	flat	sand	dry	74	30.0	5370502.5111	506717.69998356	cloudy	10-20	140
SC249	bare	flat	loam	dry	70	29.5	5370801.6669	506717.06521578	cloudy	20	140
SC250	grass	flat	loam	dry	71	29.4	5371131.9332	506717.17956003	cloudy	12-25	140
SC251	bare	flat	loam	dry	71	29.5	5371452.9482	506717.09307507	cloudy	12-27	140

TABLE 1A: DOE AREA1 MAGNETIC DATA LOCATIONS

DOESITENO	VEGETATION	SLOPE	SOIL	MOISTURE	AIRTEMP	BAROMETER	LATITUDE	LONGITUDE	WEATHER	WIND	LINE
SC252	grass	flat	loam	dry	74	29.5	5371796.4597	506716.01505879	cloudy	18	140
SC253	weeds	flat	loam	dry	70	29.5	5372112.6759	506715.83760911	cloudy	15-28	140
SC254	summerfallow	flat	loam	dry	70	29.5	5372403.8770	506715.64066729	cloudy	12-25	140
SC255	stubble	flat	loam	dry	70	29.5	5372747.9981	506714.81496741	cloudy	18	140
SC256	summerfallow	flat	loam	dry	70	29.5	5373042.6555	506715.47644993	cloudy	12	140
SC257	summerfallow	flat	loam	dry	70	29.5	5373376.0636	506714.67575623	cloudy	10-18	140
SC258	summerfallow	flat	loam	dry	70	29.5	5373702.3866	506713.67663012	cloudy	10.19	140
SC259	weeds	flat	sand	dry	75	29.5	5374021.1204	506713.72000513	cloudy	16	140
SC260	summerfallow	flat	loam	dry	77	29.6	5374349.7145	506713.18105221	cloudy	10-20	140
SC261	weeds	gentle	silt	dry	74	29.5	5374733.0169	506713.15320721	cloudy	17	140
SC262	grass	flat	silt	dry	74	29.5	5374975.1632	506713.36405115	cloudy	15	140
SC263	weeds	flat	loam	dry	75	29.5	5375295.4570	506712.91120663	cloudy	10-17	140
SC264	weeds		loam	dry	72	29.5	5375634.6264	506712.84781745	cloudy	5-15	140
SC265	weeds	flat	loam	dry	74	29.5	5375979.7447	506712.43917887	sunny	18	140
SC266	sagebrush		loam	dry	73	29.5	5376262.7179	506712.16956394	cloudy	15-27	140
SC267	summerfallow	flat	loam	dry	74	29.5	5376576.3010	506711.71145017	cloudy	10-19	140
SC268	summerfallow	gentle	loam	dry	75	29.5	5376887.3930	506711.11635954	cloudy	4-12	140
SC269	grass	flat	loam	dry	75	29.5	5377230.8008	506710.69763577	sunny	5-15	140
SC270n	grass	gentle	silt	dry	75	29.5	5377867.3118	506711.19699900	cloudy	15	140
SC270s	summerfallow	flat	silt	dry	74	29.5	5377546.3043	506711.17538910	cloudy	12-27	140
SC271	stubble	flat	loam	dry	72	29.5	5378175.0351	506710.38682750	cloudy	20-27	140
SC272	stubble	gentle	loam	dry	75	29.5	5378519.0404	506710.58133232	cloudy	15	140
SC277	summerfallow	flat	loam	wet	70	29.3	5352546.7878	501905.92213411	partly overcast	5-12	143
SC278	summerfallow	gentle	loam	wet	68	29.4	5352883.7109	501905.43520428	partly overcast	5-10	143
SC279	stubble	gentle		dry	69	29.4	5353206.2465	501907.07608264	partly overcast	5	143
SC280	bare	gentle	loam	wet	72	29.4	5353547.2621	501906.42188567	cloudy	8	143
SC281	grass	gentle	loam	damp	68	29.4	5353845.8858	501906.24986185	cloudy	7	143
SC282	summerfallow	flat	loam	wet	68	29.4	5354206.2412	501905.34038403	cloudy	6	143
SC283	grass	flat	loam	wet	72	29.4	5354522.0169	501905.01881001	cloudy	6	143
SC284	grass	flat	loam	damp	70	29.4	5354865.8876	501904.38930361	cloudy	0-5	143
SC285	grass	flat	loam	damp	70	29.4	5355209.9102	501904.21616132	partly overcast	5-8	143
SC286	stubble	flat	loam	damp	70	29.4	5355499.8279	501904.29100932	partly overcast	6	143
SC287	weeds	flat	silt	dry	71	29.3	5355820.9890	501904.16187105	partly overcast	7	143
SC288	grass	gentle	silt	damp	71	29.3	5356135.3548	501903.23040689	cloudy	0-6	143
SC289	grass	gentle	loam	damp	72	29.4	5356452.6017	501898.71369932	cloudy	0-7	143
SC290	grass	gentle	loam	damp	72	29.4	5356790.4720	501903.02496242	cloudy	0-7	143
SC291	grass	flat	sand	damp	73	29.2	5357113.4159	501900.18815638	cloudy	0-6	143
SC292	grass	gentle	gravel	damp	73	29.3	5357438.5674	501898.10273421	cloudy	0-4	143
SC293	grass	gentle	sand	damp	73	29.2	5357771.5387	501901.01480900	cloudy	0-7	143
SC294	grass	flat	loam	damp	73	29.3	5358097.9200	501904.33893714	cloudy	0	143
SC295	grass	flat	loam	damp	72	29.3	5358426.8160	501902.27627879	cloudy	0	143
SC296	grass	gentle	silt	damp	70	29.3	5358716.8118	501922.23392938	cloudy	0-8	143
SC297	grass	gentle	gravel	damp	72	29.2	5359042.2758	501916.55528513	cloudy	0-9	143
SC298	grass	gentle	gravel	damp	71	29.3	5359309.3952	501946.75271092	cloudy	0-9	143
SC299	grass	gentle	loam	damp	72	29.2	5359610.5359	501821.39790997	cloudy	7	143
SC300	grass	gentle	loam	damp	74	29.2	5359908.6921	501892.62636731	cloudy	8	143
SC301	bare	flat	loam	damp	74	29.4	5360224.0921	501900.11910935	partly overcast	9	143
SC302	summerfallow	gentle	loam	damp	74	29.2	5360580.0162	501900.53426771	partly overcast	10	143
SC303	grass	gentle	loam	damp	74	29.2	5360879.8551	501900.47209928	partly overcast	9	143
SC304	stubble	gentle	loam	dry	73	29.2	5361375.9170	502076.20289468	partly overcast	10	143
SC305	grass	flat	loam	damp	76	29.3	5361680.8596	502014.43780399	partly overcast	5-10	143
SC306	stubble	gentle	loam	damp	76	29.0	5362019.1501	501993.00625425	partly overcast	1-10	143
SC307	grass	gentle	silt	damp	76	29.0	5362325.9230	501994.40744998	partly overcast	5-10	143
SC308	summerfallow	gentle	loam	damp	76	29.0	5362832.9591	501834.75518723	cloudy	12	143
SC309	summerfallow	flat	gravel	damp	76	29.0	5363120.9543	501834.20210176	sunny	12	143
SC310	stubble	flat	loam	damp	76	29.1	5363456.9981	501833.08028865	partly overcast	7	143
SC311	grass	flat	loam	damp	77	29.2	5363792.3095	501831.50883387	partly overcast	12	143
SC312	stubble	flat	gravel	damp	76	29.1	5364126.3781	501828.80291580	partly overcast	7	143
SC313	grass	gentle	silt	dry	79	28.9	5364474.4626	501900.34674804	cloudy	7	143
SC314	grass	gentle	sand	dry	79	28.9	5364755.3626	501883.79283633	partly overcast	5-10	143
SC315	grass	gentle	gravel	dry	79	28.8	5364994.0340	501899.40506421	partly overcast	5-10	143
SC316	grass	steep	gravel	dry	81	28.2	5365172.6542	501863.27418206	partly overcast	12	143
SC317	grass	steep	gravel	dry	80	28.9	5365478.7027	501895.99806798	sunny	12-19	143
SC318	grass	steep	clay	dry	80	28.9	5365622.1594	501890.67297299	partly overcast	14	143
SC319	weeds	gentle	loam	dry	80	28.9	5365814.9464	501894.67309998	partly overcast	0-10	143
SC320	grass	steep	gravel	dry	82	28.9	5366119.2368	501900.86520510	partly overcast	15	143
SC321	grass	flat	silt	dry	78	28.7	5366454.1911	501891.57361317	partly overcast	15	143
SC322	summerfallow	flat	loam	dry	82	28.7	5366748.9516	501906.22577048	sunny	15	143
SC323	summerfallow	flat	loam	dry	83	28.8	5367070.0364	501893.41414452	sunny	12-25	143
SC324	summerfallow	flat	loam	dry	83	28.7	5367398.7366	501892.42351122	sunny	10-20	143
SC325	summerfallow	gentle	loam	dry	83	28.7	5367702.3466	501892.41472788	partly overcast	10-20	143
SC326	summerfallow	gentle	loam	dry	83	28.6	5368028.2005	501892.92355218	sunny	10-20	143
SC327	stubble	gentle	loam	dry	83	28.7	5368366.4376	501893.44835155	sunny	10-20	143

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DOESITENO	VEGETATION	SLOPE	SOIL	MOISTURE	AIRTEMP	BAROMETER	LATITUDE	LONGITUDE	WEATHER	WIND	LINE
SC328	stubble	gentle	loam	dry	83	28.7	5368707.8020	501893.54336548	sunny	83	143
SC329	bare	steep	loam	dry	83	28.7	5368997.2581	501903.90571155	sunny	10-20	143
SC330	grass	gentle	loam	dry	84	28.9	5369016.9357	502975.02259154	sunny	10-20	143
SC331	grass	flat	loam	dry	83	28.9	5369028.8953	503943.10491508	sunny	82	143
SC332	grass	flat	loam	dry	83	28.9	5369249.2244	503859.41072872	sunny	83	143
SC333	grass	flat	loam	dry	83	28.9	5369375.2064	503611.10114207	sunny	10	143
SC334	grass	flat	loam	dry	83	28.6	5369644.1099	503500.62812582	sunny	10-20	143
SC335	grass	flat	loam	dry	83	28.6	5369997.4541	503499.68117341	sunny	10-20	143
SC336	grass	flat	loam	dry	83	28.5	5370298.6559	503499.85903930	sunny	8-20	143
SC337	grass	flat	loam	dry	83	28.5	5370610.2763	503500.32978297	sunny	5-25	143
SC338	grass	flat	loam	dry	83	28.5	5370942.9516	503498.66048443	sunny	5-20	143
SC339	grass	flat	loam	dry	83	28.5	5371295.4370	503498.60604064	sunny	5-20	143
SC340	grass	flat	loam	dry	83	28.4	5371585.2223	503497.36256742	sunny	5-20	143
SC341	grass	flat	loam	dry	83	28.5	5371923.5314	503495.71993645	sunny	10-20	143
SC342	grass	gentle	loam	dry	83	28.5	5372239.9197	503495.65448615	sunny	5-20	143
SC343	grass	gentle	loam	dry	83	28.6	5372553.0766	503494.76901611	sunny	5-20	143
SC344	grass	flat	loam	dry	84	28.6	5372879.0185	503493.80934947	sunny	8-20	143
SC345	summerfallow	gentle	loam	dry	85	28.5	5373202.1146	503492.31815791	sunny	5-20	143
SC346	grass	gentle	loam	dry	85	28.6	5373529.2030	503491.22596395	sunny	5-20	143
SC347	stubble	gentle	sand	dry	85	28.6	5373883.6552	503489.44690772	sunny	5-20	143
SC348	stubble	flat	loam	dry	85	28.6	5374190.4757	503489.19041047	sunny	5-20	143
SC349	stubble	flat	loam	dry	85	28.5	5374519.3453	503490.31761864	sunny	10-20	143
SC350	weeds	flat	loam	dry	83	28.6	5374845.7871	503490.40216114	sunny	8-25	143
SC351	grass	flat	loam	dry	84	28.6	5375325.3900	503489.75444290	sunny	7-18	143
SC352	stubble	flat	loam	dry	84	28.6	5375635.2812	503495.17216036	sunny	7	143
SC353	stubble	gentle	loam	dry	75	28.5	5360978.6277	498708.84108868	partly overcast	0-5	241
SC354	summerfallow	gentle	gravel	dry	76	28.5	5360977.6517	498975.37388635	sunny	5-20	241
SC355	grass	gentle	loam	dry	75	28.5	5360977.8192	499282.78577344	sunny	5-20	241
SC356	summerfallow	flat	loam	dry	75	28.5	5360978.3501	499606.18305514	sunny	18	241
SC357	grass	flat	loam	dry	76	28.5	5360977.1544	499916.56445916	sunny	12-25	241
SC358	grass	gentle	loam	dry	76	28.5	5360976.2673	500245.72257423	sunny	8-20	241
SC359	grass	gentle	loam	dry	76	28.5	5360975.7589	500570.18740585	sunny	5-20	241
SC360	grass	flat	loam	dry	76	28.5	5360975.0532	500903.09707114	sunny	5-20	241
SC361	grass	flat	loam	dry	76	28.5	5360975.5651	501221.50308320	sunny	5-20	241
SC362	grass	gentle	loam	dry	76	28.5	5360976.5392	501537.05102297	sunny	12	241
SC363	grass	gentle	gravel	dry	76	28.5	5360976.0943	501851.28369779	sunny	5-20	241
SC364	grass	gentle	loam	dry	76	28.5	5360976.6714	502168.81189945	sunny	5-20	241
SC365	grass	flat	loam	dry	76	28.5	5360976.5782	502489.15964443	sunny	5-29	241
SC366	summerfallow	gentle	loam	dry	76	28.5	5360975.3871	502853.27682972	sunny	12-25	241
SC367	grass	steep	gravel	dry	76	28.5	5360976.4994	503134.30897999	sunny	5-20	241
SC368	grass	gentle	loam	dry	77	28.5	5360977.7596	503503.82697634	sunny	8-22	241
SC369	grass	flat	loam	dry	77	28.5	5360977.5795	503787.59566456	sunny	5-20	241
SC370		gentle	loam	dry	78	28.5	5360977.5590	504138.29032484	sunny	20	241
SC371	stubble	flat	loam	dry	79	28.5	5360979.0660	504449.31647985	sunny	5-20	241
SC372	summerfallow	gentle	loam	dry	80	28.5	5360978.3811	504752.58696871	sunny	8-22	241
SC373	summerfallow	flat	loam	dry	80	28.5	5360979.0110	505067.54874420	sunny	10-20	241
SC374	summerfallow	gentle	loam		80	28.5	5360981.8615	505400.11008925	sunny	10-20	241
SC375	grass	gentle	loam	dry	80	28.5	5360980.6271	505720.66995618	sunny	5-20	241
SC376	grass	flat	loam	dry	80	28.5	5360986.7225	506061.23789056	sunny	5-18	241
SC377	summerfallow	flat	loam	dry	80	28.5	5360986.9632	506374.98726540	sunny	18	241
SC378	stubble	flat	loam		80	28.5	5360989.3989	506664.59261994	sunny	5-17	241
SC379	grass	gentle	loam	dry	81	28.5	5360982.1144	507038.31518291	sunny	5-20	241
SC380	grass	flat	loam	dry	81	28.5	5360980.5497	507362.50032405	sunny	12-29	241
SC381	grass	flat	loam	dry	81	28.5	5360983.0310	507660.99109684	sunny	5-20	241
SC382	grass	flat	loam	dry	81	28.5	5360983.6350	507995.71013161	sunny	5-20	241
SC383	summerfallow	flat	loam	dry	81	28.5	5360982.7409	508320.41005454	sunny	5-10	241
SC384	summerfallow	flat	loam	dry	81	28.5	5360987.2717	508633.83900659	sunny	5-20	241
SC385	stubble	flat	loam	dry	81	28.5	5360980.7272	508940.63490455	sunny	5-20	241
SC386	summerfallow	flat	loam	dry	81	28.5	5360991.8396	509208.89970474	sunny	5-20	241
SC387	summerfallow	flat	loam	dry	81	28.5	5360992.4015	509523.77878054	sunny	5-20	241
SC388	weeds	flat	gravel	dry	81	28.5	5360994.5044	509846.69792071	sunny	5-20	241
SC389	grass	flat	loam	dry	81	28.5	5360992.5744	510281.96017107	sunny	8-22	241
SC390	summerfallow	flat	sand	dry	81	28.5	5361004.1705	510771.20769024	sunny	12-25	241
SC391	summerfallow	flat	loam	dry	81	28.5	5361010.3326	511262.11404048	sunny	10-22	241
SC392	summerfallow	gentle	silt	dry	82	28.5	5361011.5237	511740.03080991	sunny	10-20	241
SC393	summerfallow	gentle	silt	dry	82	28.5	5361021.7859	512044.54401430	sunny	10-20	241
SC394	grass	flat	loam	dry	82	28.5	5360997.9821	512341.14496457	sunny	10-28	241
SC395	grass	gentle	loam	dry	82	28.5	5360998.8066	512672.96867581	sunny	8-20	241
SC396	summerfallow	steep	silt	dry	85	28.5	5361003.6455	513004.84244072	sunny	10-20	241
SC397	summerfallow	gentle	silt	dry	85	28.5	5361484.8586	513128.47700206	sunny	10-20	241
SC398	stubble	gentle	loam	dry	85	28.5	5361971.6294	513126.29804891	sunny	10-20	241
SC399	weeds	gentle	silt	dry	85	28.5	5361896.9507	513320.55017196	sunny	10-20	241
SC400	summerfallow	gentle	sand	dry	85	28.5	5361898.8120	513630.57763188	sunny	10-20	241

TABLE 1A: DOE AREA1 MAGNETIC DATA LOCATIONS

DOESITENO	VEGETATION	SLOPE	SOIL	MOISTURE	AIRTEMP	BAROMETER	LATITUDE	LONGITUDE	WEATHER	WIND	LINE
SC401	grass	gentle	loam	dry	85	28.5	5361830.8396	513903.89574876	sunny	10-20	241
SC402	summerfallow	gentle	loam	dry	85	28.5	5361810.1387	514202.27148747	sunny	10-20	241
SC403	grass	gentle	loam	dry	85	28.5	5361974.1377	514508.93595247	sunny	10-20	241
SC404	summerfallow	flat	sand	dry	85	28.5	5361935.8886	514815.86869339	sunny	10-20	241
SC405	summerfallow	flat	loam	dry	85	28.5	5361868.4102	515229.30214347	sunny	10-20	241
SC406	sagebrush	flat	silt	dry	86	28.5	5361900.4863	515601.00380857	sunny	12-25	241
SC407	summerfallow	flat	loam	dry	85	28.5	5361931.8772	515853.70361485	sunny	10-20	241
SC408	weeds	flat	loam	dry	85	28.5	5361719.1647	516108.02142335	sunny	10-20	241
SC409	grass	flat	loam	dry	85	28.5	5361444.8437	516266.73638032	sunny	10-20	241
SC410	grass	gentle	loam	dry	85	28.5	5361275.9036	516520.79512710	sunny	12-20	241
SC411	grass	gentle	loam	dry	85	28.5	5361179.6160	516818.30741642	sunny	10-20	241
SC412	summerfallow	gentle	loam	dry	85	28.8	5361038.3532	517103.20753345	sunny	10-25	241
SC413	summerfallow	gentle	silt	dry	85	28.8	5361115.3435	517380.40117659	sunny	10-20	241
SC414	summerfallow	gentle	silt	dry	87	28.8	5361183.9625	517706.31094671	sunny	12-22	241
SC415	summerfallow	gentle	silt	dry	86	28.6	5361040.0017	517959.60313568	sunny	12-22	241
SC416	summerfallow	flat	loam	dry	86	28.7	5361007.7511	518276.09093317	sunny	10-20	241
SC417	grass	flat	silt	dry	86	28.7	5361008.1033	518601.87106217	sunny	12-22	241
SC418	summerfallow	flat	loam	dry	86	28.7	5361009.6264	518920.58419873	sunny	20	241
SC419	summerfallow	flat	loam	dry	86	28.7	5361010.6616	519247.90061371	sunny	10-20	241
SC420	stubble	flat	silt	dry	86	28.7	5360990.9908	519546.34189592	sunny	10.20	241
SC421	weeds	flat	loam	dry	86	28.7	5360664.1894	519546.32516194	sunny	18	241
SC422	summerfallow	flat	loam	dry	86	28.7	5360346.9348	519547.55704383	sunny	12-22	241
SC423	summerfallow	flat	loam	dry	86	28.7	5360210.2259	519925.67675110	sunny	18	241
SC424	stubble	flat	loam	dry	86	28.7	5360209.1377	520237.88364057	sunny	8-18	241
SC425	weeds	flat	loam	dry	86	28.8	5360213.8599	520564.60140214	sunny	10-20	241
SC426	grass	flat	loam	dry	86	28.7	5360217.8605	520875.41724767	sunny	10-20	241
SC427	grass	flat	loam	dry	86	28.7	5360225.5261	521145.78417680	sunny	10-20	241
SC428	grass	flat	loam	dry	86	28.7	5360043.1531	521178.34473356	sunny	20	241
SC429	summerfallow	flat	loam	dry	85	28.7	5360161.4920	521757.64598733	sunny	10-22	241
SC430	summerfallow	gentle	loam	dry	86	28.7	5360210.7549	522159.40078433	sunny	20	241
SC431	weeds	flat	gravel	dry	86	28.7	5360214.2027	522457.85559926	sunny	10-20	241
SC432	weeds	flat	loam	dry	86	28.7	5360160.2440	522758.38520178	sunny	10-20	241
SC433	summerfallow	steep	loam	dry	86	28.8	5359816.0368	522761.10755553	sunny	10-20	241
SC434	summerfallow	flat	loam	dry	85	28.7	5359416.4361	522763.90218593	sunny	20	241
SC435	grass	flat	loam	dry	85	29.8	5356186.3798	516390.56626412	sunny	10-20	244
SC436	grass	flat	loam	dry	85	28.7	5356184.0800	516119.86790047	sunny	10-20	244
SC437	summerfallow	flat	silt	dry	86	28.7	5356183.6784	515840.21332155	sunny	10-20	244
SC438	stubble	flat	loam	dry	85	28.7	5356183.1130	515511.97119631	sunny	17	244
SC439	grass	flat	silt	dry	85	28.7	5356182.2961	515184.34248497	sunny	15-25	244
SC440	grass	flat	loam	dry	86	28.9	5356181.5162	514832.14400950	sunny	22	244
SC441	grass	flat	loam	dry	86	28.8	5356180.3474	514487.62363427	sunny	14-22	244
SC442	summerfallow	flat	loam	dry	86	28.9	5356179.1362	514239.29222186	sunny	15-25	244
SC443	summerfallow	flat	loam	dry	86	28.9	5356177.1295	513896.54171006	sunny	10-22	244
SC444	summerfallow	flat	loam	dry	86	28.9	5356174.7025	513554.16760313	sunny	10-20	244
SC445	grass	flat	loam	dry	87	28.9	5356172.8660	513255.49746119	sunny	10-20	244
SC446	grass	flat	loam	dry	86	28.9	5356170.8193	512916.83276789	sunny	10-22	244
SC447	stubble	flat	loam		87	28.9	5356168.5609	512579.90166724	sunny	10-20	244
SC448	grass	gentle	loam	dry	86	28.9	5356166.9127	512261.77583796	sunny	20	244
SC449	grass	gentle	loam	dry	86	28.9	5356165.1968	511950.24310210	sunny	10-22	244
SC450	stubble	gentle	loam	dry	86	28.9	5356163.1520	511627.19094018	sunny	11-22	244
SC451	bare	steep	gravel	dry	87	28.8	5356160.9326	511290.79285828	sunny	11-22	244
SC452	summerfallow	flat	loam	dry	88	28.8	5356158.7367	510913.03597014	sunny	11-22	244
SC453	grass	flat	silt	dry	88	28.9	5356157.1510	510647.10433493	sunny	12-25	244
SC454	grass	flat		dry	88	29.9	5356155.3703	510346.19493603	sunny	15-25	244
SC455	grass	flat	silt	dry	88	28.9	5356155.1646	509975.47777594	sunny	13-23	244
SC456	summerfallow	flat	loam	dry	88	28.9	5356155.2330	509686.83856968	sunny	10-2	244
SC457	summerfallow	flat	loam	dry	69	30.0	5356155.6653	509374.26724251	sunny	18	244
SC458	grass	gentle	loam	dry	68	30.0	5356155.3262	509060.27530972	cloudy	10-20	244
SC459	grass	gentle	loam	dry	66	30.0	5356155.1701	508739.40068908	cloudy	11-22	244
SC460	summerfallow	flat	loam	dry	66	30.0	5356154.7647	508415.57593819	cloudy	11-22	244
SC461	grass	flat	loam	dry	66	30.0	5356155.5129	508048.09949005	cloudy	66	244
SC462	grass	flat	loam	dry	66	30.0	5356164.1244	507757.88814666	cloudy	9-17	244
SC463	grass	flat	loam	dry	65	30.0	5356154.7598	507437.36866083	cloudy	13	244
SC464	grass	flat	loam	dry	65	30.0	5356154.2461	507112.34329362	cloudy	15	244
SC465	grass	flat	loam	dry	65	30.0	5356153.8655	506797.97571310	cloudy	15-25	244
SC466	summerfallow	flat	loam	dry	65	30.0	5356153.8583	506421.85949631	cloudy	10-20	244
SC467	summerfallow	flat	loam	dry	65	30.0	5356153.5172	506143.65418385	cloudy	18	244
SC468	grass	flat	loam	dry	65	30.0	5356153.8854	505815.12876365	cloudy	20	244
SC469	grass	flat	loam	dry	65	30.0	5356152.9050	505458.20524474	partly overcast	18	244
SC470	weeds	gentle	loam	dry	65	30.0	5356154.1192	505150.16720692	partly overcast	18	244
SC471	summerfallow	flat	loam	dry	65	30.0	5357763.4622	505104.10122185	cloudy	17	243
SC472	summerfallow	flat	loam	dry	65	29.8	5357763.3206	504844.13167285	cloudy	17	243
SC473	grass	flat	loam	dry	66	29.8	5357764.3688	504518.79412749	cloudy	10-17	244

TABLE 1A: DOE AREA1 MAGNETIC DATA LOCATIONS

DOESITENO	VEGETATION	SLOPE	SOIL	MOISTURE	AIRTEMP	BAROMETER	LATITUDE	LONGITUDE	WEATHER	WIND	LINE
SC474	grass	flat	loam	dry	68	29.8	5357763.1188	504193.86989688	cloudy	18	243
SC475	grass	flat	loam	dry	66	29.9	5357763.5880	503869.38992131	cloudy	18	243
SC476	grass	gentle	loam	dry	66	29.8	5357764.3807	503509.90134394	cloudy	18	243
SC477	grass	flat	loam	dry	67	29.8	5357763.6083	503227.79935283	cloudy	5-18	243
SC478	grass	flat	loam	dry	68	29.7	5357764.9857	502900.75013473	cloudy	10-18	243
SC479	weeds	gentle	loam	dry	67	29.8	5357764.0681	502575.73619044	cloudy	8-18	243
SC480	weeds	gentle	loam	dry	68	29.8	5357765.3846	502246.27285456	cloudy	5-18	243
SC481	weeds	gentle	loam	dry	68	29.8	5357767.4577	501909.46850718	cloudy	5-18	243
SC482	grass	gentle	loam	dry	68	29.8	5357747.6356	511528.58662791	cloudy	5-18	137
SC483	grass	gentle	loam	dry	70	29.8	5357323.9535	511527.72253431	cloudy	18	137
SC484	grass	flat	loam	dry	70	29.8	5356954.1678	511530.40979203	cloudy	18	137
SC485	grass	flat	loam	dry	70	28.9	5356665.9763	511529.09229055	cloudy	5-18	137
SC486	grass	flat	gravel	dry	70	29.8	5356348.0295	511529.99505955	cloudy	5-19	137
SC487	weeds	flat	gravel	dry	71	29.8	5356004.1812	511532.60862682	cloudy	20	137
SC488	summerfallow	flat	gravel	dry	70	29.7	5355690.3395	511533.29314581	cloudy	19	137
SC489	summerfallow	flat	gravel	dry	69	29.7	5355388.8088	511534.40107378	cloudy	22	137
SC490	summerfallow	flat	loam	dry	69	29.7	5355022.0463	511536.56319364	cloudy	18	137
SC491	weeds	flat	loam	dry	70	29.7	5354649.0005	511537.29092021	cloudy	10-20	137
SC492	weeds	flat	loam	dry	70	29.7	5354203.4675	511538.29213568	cloudy	20	137
SC492	stubble	flat	loam	dry	70	29.7	5353559.4905	511540.02932182	partly overcast	10-20	137
SC493	stubble	flat	loam	dry	70	29.7	5353892.3921	511539.56809151	cloudy	23	137
SC495	stubble	flat	loam	dry	70	29.7	5353232.5085	511540.84774125	cloudy	15-25	137
SC496	grass	flat	loam	dry	70	29.7	5352884.9639	511542.61878529	cloudy	20	137
SC497	grass	flat	loam	dry	70	29.7	5352545.7843	511544.08939602	cloudy	22	137
SC498	grass	flat	loam	dry	70	29.7	5352256.7484	511544.81941188	cloudy	10-22	137
SC499	grass	flat	loam	dry	70	29.7	5351922.8848	511545.80413835	cloudy	8-22	137
SC500	grass	flat	loam	dry	70	29.7	5351558.1315	511546.35910871	cloudy	22	137
SC501	stubble	gentle	loam	dry	70	29.7	5351253.9547	511546.72076582	partly overcast	25	137
SC502	grass	flat	loam	dry	70	29.7	5351326.9361	509937.61985296	cloudy	22	247
SC503	grass	gentle	loam	dry	71	29.7	5351327.9274	510233.08649901	cloudy	12	247
SC504	grass	flat	loam	dry	70	29.7	5351328.9888	510554.35540553	partly overcast	18	247
SC505	grass	flat	loam	dry	70	29.7	5351328.8239	510889.56657689	partly overcast	5-20	247
SC506	stubble	flat	loam	dry	70	29.7	5351330.5299	511224.13948634	partly overcast	19	247
SC507	grass	flat	loam	dry	65	30.0	5351330.2572	511568.05209336	partly overcast	5	247
SC508	grass	flat	loam	dry	65	28.9	5351329.0394	511840.85274055	partly overcast	8	247
SC509	grass	flat	loam	dry	65	28.9	5351329.0960	512173.83847967	cloudy	8	247
SC510	grass	flat	loam	dry	65	28.9	5351330.5446	512504.04633528	partly overcast	0-8	247
SC511	weeds	flat	loam	dry	65	29.9	5351326.2719	512827.04990742	cloudy	0-10	247
SC512	grass	flat	loam	dry	65	28.9	5351334.0800	513102.59154184	cloudy	0-10	247
SC513	grass	flat	loam	dry	66	28.8	5351337.8895	513427.56396178	cloudy	8	247
SC514	grass	flat	loam	dry	67	28.6	5351330.9799	513737.76806910	cloudy	8	247
SC515	grass	flat	loam	dry	68	28.9	5351334.2345	513947.00886577	cloudy	8	247
SC516	grass	flat	loam	dry	68	28.6	5351323.7132	514252.05066296	cloudy	9	247
SC517	grass	flat	loam	dry	69	28.6	5351343.4556	514589.65116648	cloudy	9	247
SC518	summerfallow	flat	loam	dry	79	28.6	5351345.2458	514927.27459374	cloudy	10	247
SC519	grass	flat	loam	dry	69	28.5	5351346.1148	515234.07510494	cloudy	0-8	247
SC520	summerfallow	flat	loam	dry	69	28.5	5351344.1745	515566.71616755	cloudy	5-10	247
SC521	stubble	flat	loam	dry	70	28.5	5351345.2272	515876.80112521	cloudy	5-12	247
SC522	summerfallow	gentle	loam	dry	70	28.5	5351347.0112	516235.39405215	cloudy	5-18	247
SC523	grass	flat	loam	dry	70	28.4	5351351.5725	516542.91840993	cloudy	18	247
SC524	grass	flat	loam	dry	70	28.5	5351351.8467	516858.09914631	cloudy	10-18	247
SC525	weeds	flat	loam	dry	70	28.4	5351349.0783	517171.46545576	cloudy	0-20	247
SC526	weeds	flat	loam	dry	70	28.4	5351350.2109	517498.02199363	cloudy	15	247
SC527	grass	flat	loam	dry	70	28.4	5351353.8666	517827.65091862	cloudy	18	247
SC528	summerfallow	steep	loam	dry	70	28.4	5351358.0903	518146.05896674	cloudy	4	247
SC529	grass	gentle	loam	dry	70	28.5	5359470.2538	523593.42553191	cloudy	7	130
SC530	grass	flat	loam	dry	69	28.5	5359844.5734	523575.05469632	sunny	0	130
SC531	grass	gentle	loam	dry	75	28.5	5360216.4545	523575.73073742	partly overcast	0-10	130
SC532	grass	flat	loam	dry	75	28.5	5360488.3417	523576.98113152	partly overcast	10	130
SC533	grass	flat	loam	dry	76	28.5	5360801.5773	523573.22413784	partly overcast	10	130
SC534	grass	flat	loam	dry	77	28.5	5361028.7038	523565.37244759	partly overcast	0-10	130
SC535	grass	flat	loam	dry	78	28.5	5361062.0685	522762.58752075	partly overcast	10	130
SC536	grass	flat	loam	dry	78	28.5	5361328.9317	522761.20212308	partly overcast	10	130
SC537	grass	flat	loam	dry	78	28.5	5361619.7900	522759.30771007	partly overcast	0-10	130
SC538	grass	flat	loam	dry	78	28.5	5361950.9967	522757.60769343	partly overcast	0-12	130
SC539	grass	flat	loam	dry	79	28.5	5362298.9192	522755.68556382	partly overcast	7	130
SC540	grass	flat	loam	dry	79	28.5	5362580.3240	522754.43620367	partly overcast	0-19	130
SC541	grass	flat	loam	dry	79	28.5	5362886.5288	522755.91303777	partly overcast	15	130
SC542	grass	flat	loam	dry	73	28.5	5363209.9627	522754.47295998	partly overcast	0-12	130
SC543	grass	flat	loam	dry	73	28.5	5363536.5522	522754.10674052	partly overcast	15	130
SC544	grass	flat	loam	dry	73	28.5	5364069.2076	522751.82514263	partly overcast	0-10	130
SC545	grass	flat	loam	dry	72	28.5	5364376.1217	522745.47896286	partly overcast	0-11	130
SC546	grass	flat	loam	dry	73	28.5	5364588.6692	522742.84728847	partly overcast	0-13	130

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DOESITENO	VEGETATION	SLOPE	SOIL	MOISTURE	AIRTEMP	BAROMETER	LATITUDE	LONGITUDE	WEATHER	WIND	LINE
SC547	grass	flat	loam	dry	75	28.5	5364827.4244	522742.87415033	cloudy	15	130
SC548	weeds	flat	loam	dry	73	28.5	5365160.6863	522742.61010623	partly overcast	15	130
SC549	weeds	flat	loam	dry	76	28.5	5365487.4816	522743.40674839	partly overcast	0-10	130
SC550	grass	flat	silt	dry	75	28.5	5365855.0089	522739.40785287	partly overcast	0-10	130
SC551	grass	flat	loam	dry	75	28.5	5366124.4577	522737.24730802	partly overcast	0-10	130
SC552	grass	flat	loam	dry	75	28.5	5366433.6973	522735.55631294	partly overcast	5-14	130
SC553	stubble	flat	loam	dry	75	28.5	5366762.4484	522737.65928815	cloudy	0-15	130
SC554	stubble	gentle	gravel	dry	75	28.5	5367070.4681	522722.71044117	cloudy	0-10	130
SC555	grass	gentle	sand	dry	75	28.5	5367457.0110	522729.17519183	cloudy	5	130
SC556	grass	gentle	loam	dry	75	28.5	5367450.0759	517970.85702270	partly overcast	9	237
SC557	grass	gentle	silt	dry	76	28.5	5367453.5639	518229.18421707	cloudy	15	237
SC558	grass	gentle	loam	dry	76	28.3	5367454.3893	518550.80335120	partly overcast	2-20	237
SC559	stubble	flat	loam	dry	76	28.3	5367468.3088	518892.04145593	partly overcast	5-18	237
SC560	grass	flat	loam	dry	76	28.3	5367472.8737	519200.70345960	partly overcast	0-10	237
SC561	grass	gentle	loam	dry	76	28.3	5367471.4629	519591.34438920	partly overcast	18	237
SC562	stubble	gentle	loam	dry	76	28.2	5367471.9243	519870.38395931	partly overcast	19	237
SC563	weeds	gentle	loam	dry	78	28.3	5367473.8171	520200.66281132	partly overcast	0-12	237
SC564	weeds	flat	loam	dry	78	28.2	5367472.1319	520524.83421248	partly overcast	10-20	237
SC565	weeds	gentle	loam	dry	78	28.2	5367478.0438	520848.14761357	partly overcast	0-19	237
SC566	grass	gentle	loam	dry	78	28.2	5367463.2588	521158.26555481	partly overcast	10-22	237
SC567	summerfallow	flat	loam	dry	78	28.2	5367462.8433	521424.58836977	partly overcast	0-10	237
SC568	grass	steep	loam	dry	78	28.3	5367465.5400	521754.09977084	partly overcast	7-22	237
SC569	grass	flat	loam	dry	78	28.2	5367469.0680	522098.31715717	partly overcast	14-22	237
SC570	grass	flat	loam	dry	78	28.2	5367463.8432	522425.33203541	partly overcast	0-12	237
SC571	stubble	flat	loam	dry	78	28.3	5367469.2189	523090.72199980	sunny	0-12	237
SC572	grass	flat	loam	dry	78	28.3	5367469.0973	523403.34225701	sunny	6-19	237
SC573	summerfallow	flat	loam	dry	78	28.3	5367472.7142	523721.47675669	sunny	15	237
SC574	summerfallow	flat	loam	dry	78	28.3	5367471.3045	524070.35990278	sunny	10-19	237
SC575	weeds	gentle	loam	dry	78	28.3	5367470.8673	524402.14027829	sunny	0-8	237
SC576	weeds	flat	loam	dry	78	28.3	5367473.1920	524707.59761805	sunny	0-9	237
SC577	weeds	flat	loam	dry	79	28.5	5367478.4443	525038.28020369	sunny	6	237
SC578	weeds	flat	loam	dry	78	28.5	5367479.0087	525373.45690788	sunny	0-10	237
SC579	weeds	flat	silt	dry	78	28.5	5367479.4937	525695.89716602	sunny	0-10	237
SC580	grass	gentle	sand	dry	65	28.5	5367475.5631	525957.16998335	sunny	6	237
SC581	grass	flat	loam		65	30.0	5365870.6097	525957.14111350	sunny	5	238
SC582	summerfallow	flat	loam	dry	75	30.0	5365871.3454	525691.91821676	sunny	12	238
SC583	grass	flat	loam	dry	65	30.0	5365868.7188	525423.30026720	sunny	5-12	238
SC584	grass	flat	sand	dry	66	30.0	5365865.3156	525097.39123181	sunny	5-10	238
SC585	grass	gentle	loam	dry	65	30.0	5365863.4115	524796.91854109	sunny	0-10	238
SC586	grass	gentle	loam	dry	65	30.0	5365861.9924	524467.87056999	sunny	0-12	238
SC587	grass	flat	loam	dry	65	30.0	5365862.9424	524153.07703292	sunny	7	238
SC588	grass	flat	loam	dry	66	29.6	5365858.6644	523826.54926958	sunny	5	238
SC589	grass	flat	loam	dry	66	29.7	5365858.6776	523517.57584558	sunny	0-10	238
SC590	grass	flat	loam	dry	66	29.6	5365857.1805	523178.53825108	sunny	0-10	238
SC591	grass	flat	sand	dry	66	29.5	5365858.7303	522860.00969301	sunny	0-12	238
SC592	grass	flat	loam	dry	66	29.5	5365855.0181	522546.62137676	sunny	12	238
SC593	weeds	flat	loam	dry	65	29.5	5365854.4194	522196.26610597	sunny	0-10	238
SC594	grass	gentle	loam	dry	65	29.5	5365855.2355	521824.44194374	sunny	5	238
SC595	grass	flat	loam	dry	65	29.5	5365854.0490	521537.95329650	sunny	0-10	238
SC596	grass	flat	loam	dry	65	28.5	5365855.6192	521245.56720482	sunny	5-12	238
SC597	grass	flat	loam	dry	65	29.5	5365850.9741	520912.44115564	sunny	0-10	238
SC598	grass	flat	loam	dry	65	29.4	5365847.2229	520593.27134537	sunny	0-10	238
SC599	grass	flat	loam	dry	66	29.4	5365846.7836	520284.86733420	sunny	0-13	238
SC600	grass	gentle	loam	dry	66	29.3	5365847.6444	519983.54481129	sunny	0-5	238
SC601	grass	flat	loam	dry	66	29.3	5365861.9270	519635.95896726	sunny	7	238
SC602	grass	flat	loam	dry	66	29.3	5365842.2223	519312.13803230	sunny	0-8	238
SC603	grass	gentle	loam	dry	67	29.3	5365845.3760	519023.17582205	sunny	0-10	238
SC604	grass	gentle	gravel	dry	67	29.3	5365859.2153	518692.32902698	sunny	8-19	238
SC605	grass	gentle	silt	dry	67	29.3	5365981.1721	518386.02333343	sunny	5-19	238
SC606	grass	gentle	loam	dry	67	29.3	5365925.7278	517958.96157509	sunny	0-13	238
SC607	grass	flat	loam	dry	67	29.3	5365844.5825	517508.21774227	sunny	0-15	238
SC608	grass	flat	loam	dry	67	29.3	5365976.1305	517149.89950272	sunny	0-8	238
SC609	grass	gentle	silt	dry	67	29.3	5366279.9933	517144.24602808	sunny	9	238
SC610	grass	flat	loam	dry	68	29.3	5366612.4951	517154.12714067	sunny	0-15	238
SC611	summerfallow	flat	loam	dry	68	29.2	5366660.1220	516848.16118451	sunny	0-19	238
SC612	grass	gentle	loam	dry	68	29.0	5366840.9121	516585.79774865	sunny	2-12	238
SC613	weeds	flat	sand	dry	68	29.0	5367038.8272	516355.78707977	sunny	0-15	238
SC614	grass	flat	loam	dry	70	29.0	5367436.8632	516342.52290317	sunny	0-18	238
SC615	weeds	gentle	gravel	dry	70	29.0	5362630.3365	517501.57187038	sunny	7	239
SC616	weeds	flat	loam	dry	71	29.0	5362922.1104	517451.96936823	sunny	0-5	239
SC617	weeds	gentle	loam	dry	72	29.1	5363228.9494	517424.48832310	sunny	0-10	239
SC618	bare	gentle	sand	dry	73	29.1	5363544.9050	517396.39491567	sunny	0-10	239
SC619	stubble	gentle	sand	dry	73	29.1	5363873.9252	517397.61666861	sunny	0-10	239

TABLE 1A: DOE AREA1 MAGNETIC DATA LOCATIONS

DOESITENO	VEGETATION	SLOPE	SOIL	MOISTURE	AIRTEMP	BAROMETER	LATITUDE	LONGITUDE	WEATHER	WIND	LINE
SC620	grass	gentle	silt	dry	75	29.1	5364021.7228	517214.03079819	sunny	5	239
SC621	stubble	gentle	silt	dry	75	29.1	5364025.7309	516930.52125526	sunny	0-15	239
SC622	stubble	gentle	silt	dry	75	29.1	5364024.2679	516598.08097928	sunny	0-12	239
SC623	weeds	gentle	silt		75	28.8	5363967.3738	516185.51788035	sunny	0-14	239
SC624	weeds	steep	silt	dry	75	28.8	5364064.5439	516010.40992132	sunny	0-16	239
SC625	weeds	gentle	silt	dry	75	28.8	5364217.8359	515792.01653608	sunny	12	239
SC626	grass	gentle	loam	dry	75	28.8	5364370.0719	515613.40944523	sunny	1-9	239
SC627	grass	gentle	loam		75	28.7	5364676.4194	515556.29700292	sunny	0-20	239
SC628	sagebrush	gentle	silt	dry	75	28.7	5364872.3427	515309.73895395	sunny	0-10	239
SC629	sagebrush	gentle	loam	dry	75	28.4	5365014.5992	514929.75050042	sunny	5-20	239
SC630	grass	gentle	loam	dry	75	28.4	5365036.7258	514619.08948060	sunny	10	239
SC631	grass	flat	loam	dry	75	28.4	5365039.8666	514293.95986955	sunny	0-14	239
SC632	summerfallow	flat	silt	dry	75	28.3	5365030.4507	514042.56542699	sunny	0-16	239
SC633	grass	gentle	loam	dry	76	28.3	5365087.2141	513674.55417484	sunny	18	239
SC634	grass	flat	loam	dry	76	28.3	5365153.3562	513430.85194849	sunny	16	239
SC635	grass	flat	loam	dry	76	28.3	5365112.2986	513123.99296790	sunny	5-20	239
SC636	summerfallow	gentle	silt	dry	75	28.5	5365417.9655	513116.91413041	sunny	0-16	239
SC637	summerfallow	flat	silt	dry	76	28.5	5365763.8157	513114.42970771	sunny	0-15	239
SC638	summerfallow	flat	loam	dry	76	28.5	5365812.5244	512821.39180186	sunny	5-20	239
SC639	stubble	gentle	loam	dry	77	28.2	5365816.9820	512529.13667649	sunny	18	239
SC640	summerfallow	gentle	loam	dry	77	28.1	5365816.5571	512092.93900226	sunny	5-20	239
SC641	stubble	flat	loam		77	28.1	5365804.0784	511600.11143692	sunny	18	239
SC642	weeds	flat	silt	dry	77	28.1	5365810.5670	511104.75976348	sunny	1-19	239
SC643	weeds	gentle	sand	dry	77	28.1	5365814.6371	510808.80980608	sunny	5-20	239
SC644	summerfallow	gentle	sand	dry	77	28.1	5365813.6846	510484.23800916	sunny	0-16	239
SC645	stubble	flat	loam	dry	77	28.1	5365812.9248	510181.31125633	sunny	0-10	239
SC646	grass	gentle	loam	dry	77	28.1	5365811.5444	509852.36513356	sunny	15	239
SC647	grass	flat	gravel	dry	77	28.1	5365810.3482	509546.58913659	sunny	5-18	239
SC648	grass	flat	loam	dry	77	28.1	5365805.8052	509197.06506748	sunny	15	239
SC649	grass	gentle	loam	dry	77	28.1	5365802.0884	508846.19269345	sunny	0-12	239
SC650	grass	gentle	loam	dry	77	28.3	5365800.3042	508552.49363888	sunny	0-18	239
SC651	grass	gentle	loam	dry	77	28.3	5365801.0734	508333.77727499	sunny	22	239
SC652	grass	gentle	loam	dry	77	28.3	5365492.2723	507965.31073153	sunny	18	139
SC653	grass	gentle	loam	dry	78	28.3	5366138.6528	508417.76725453	sunny	0-18	139
SC654	sagebrush	flat	loam	dry	78	28.3	5366443.8370	508634.14913374	sunny	0-17	139
SC655	weeds	flat	loam	dry	79	28.2	5366741.9976	508664.62697108	sunny	17	139
SC656	bare	steep	gravel	dry	80	28.3	5367032.6139	508820.79142686	sunny	22	139
SC657	sagebrush	gentle	silt	dry	80	28.3	5367396.7995	508738.64053817	sunny	17	139
SC658	weeds	gentle	loam	dry	80	28.3	5367600.6631	508513.01129488	sunny	0-17	139
SC659	weeds	steep	sand	dry	80	28.3	5367907.7452	508462.01246570	sunny	12	139
SC660	weeds	gentle	loam	dry	80	28.2	5368209.2866	508570.61192275	sunny	10	139
SC661	grass	gentle	loam	dry	80	28.4	5368455.0476	508705.41297991	sunny	18	139
SC662	weeds	flat	silt	dry	80	28.0	5368796.4525	508744.28625126	sunny	0-19	139
SC663	weeds	steep	silt	damp	80	28.3	5369076.4988	508648.18199798	sunny	0-18	139
SC664	grass	steep	loam	dry	80	28.4	5369359.7622	508457.36846869	sunny	17	139
SC665	grass	gentle	sand	dry	80	28.5	5369657.7634	508376.95938093	sunny	15	139
SC666	sagebrush	flat	silt	dry	80	28.4	5369954.5671	508371.31850146	sunny	0-16	139
SC667	grass	flat	loam	dry	80	27.8	5370211.6078	508435.99089886	sunny	10-20	139
SC668	grass	steep	loam	dry	80	27.8	5370375.9866	508676.55256551	sunny	0-20	139
SC669	grass	gentle	gravel	dry	80	27.7	5370631.8869	508801.09360090	sunny	10-22	139
SC670	grass	gentle	loam	dry	80	27.8	5370826.5016	509048.15831874	sunny	10-22	139
SC671	grass	gentle	loam	dry	80	27.8	5371097.7601	509167.16199100	sunny	10-22	139
SC672	weeds	steep	loam	dry	80	27.7	5371354.0639	509228.38021948	sunny	10-19	139
SC673	grass	flat	loam	dry	80	27.8	5371646.6503	509246.81915714	sunny	22	139
SC674	weeds	gentle	loam	dry	80	27.8	5370291.6166	510745.78785340	sunny	11-22	138
SC675	grass	flat	loam	dry	80	28.0	5369974.6234	510812.51332545	sunny	11-22	138
SC676	grass	gentle	loam	dry	80	28.0	5369668.0077	510830.68780400	sunny	11-22	138
SC677	weeds	gentle	loam	dry	80	28.0	5369338.7285	510783.82157728	sunny	11-22	138
SC678	grass	flat	loam	dry	80	28.0	5368821.5964	510559.03829796	sunny	11-22	138
SC679	grass	gentle	silt	dry	80	28.0	5368641.7723	510286.68183916	sunny	11-22	138
SC680	weeds	gentle	loam	dry	80	28.0	5368413.9075	510072.74346350	sunny	17	138
SC681	weeds	flat	loam	dry	80	28.1	5368231.1727	509851.37188172	sunny	11-22	138
SC682	grass	flat	loam	dry	80	28.1	5367991.4680	509601.32138569	sunny	11-24	138
SC683	grass	gentle	loam	dry	80	28.0	5367744.9617	509378.03283630	sunny	10-20	138
SC684	grass	gentle	gravel	dry	80	28.0	5367392.9154	509181.98776363	partly overcast	10-24	138
SC685	grass	steep	gravel	dry	80	28.0	5367195.9779	509493.01092443	sunny	10-23	137
SC686	grass	gentle	loam	dry	80	28.0	5367143.8177	509791.48360020	sunny	22	137
SC687	grass	gentle	loam	dry	80	28.1	5367058.7033	510093.17076746	sunny	19	137
SC688	weeds	gentle	loam	dry	80	28.3	5367023.6281	510435.66990736	sunny	19	137
SC689	grass	gentle	loam	dry	80	28.3	5367151.3256	510684.90030944	sunny	19	137
SC690	grass	steep	silt	dry	80	28.1	5367291.2708	511019.96060580	sunny	10-24	137
SC691	bare	flat	loam	dry	80	28.1	5367430.1180	511259.84109334	partly overcast	12-22	137
SC692	grass	flat	loam	dry	80	28.8	5367430.1076	511485.46541284	partly overcast	11-23	137

TABLE 1A: DOE AREA1 MAGNETIC DATA LOCATIONS

DOESITENO	VEGETATION	SLOPE	SOIL	MOISTURE	AIRTEMP	BAROMETER	LATITUDE	LONGITUDE	WEATHER	WIND	LINE
SC693	grass	flat	clay	dry	80	28.8	5367721.2122	511511.76171085	sunny	24	137
SC694	grass	flat	loam	dry	80	28.9	5368050.6292	511509.63572200	partly overcast	23	137
SC695	grass	flat	loam	dry	80	28.8	5368438.9155	511505.28983141	sunny	20	137
SC696	grass	flat	loam	dry	81	29.8	5368721.5079	511504.03844146	partly overcast	1-22	137
SC697	grass	flat	loam	dry	80	28.8	5369031.3406	511475.50145901	partly overcast	11-22	137
SC698	grass	flat	loam	dry	81	28.5	5369337.3647	511506.61738807	sunny	22	137
SC699	grass	gentle	loam	dry	81	28.5	5369664.5002	511601.75770511	partly overcast	11-22	137
SC700	grass	gentle	loam	dry	81	28.5	5369893.2927	511779.60164003	sunny	11-22	137
SC701	grass	flat	loam	dry	81	28.5	5370159.7062	511899.08130414	sunny	12-24	137
SC702	grass	flat	loam	dry	60	29.3	5375445.2772	500280.06389407	sunny	12	230
SC703	summerfallow	flat	loam	dry	60	29.3	5375438.6473	500704.35404880	sunny	12	230
SC704	summerfallow	flat	loam	dry	60	29.3	5375441.3916	500993.01230129	sunny	12	230
SC705	summerfallow	flat	loam	dry	60	29.3	5375444.2339	501342.64853737	sunny	0-12	230
SC706	stubble	flat	loam	dry	60	29.2	5375444.6609	501662.16457753	sunny	13	230
SC707	grass	flat	loam	dry	63	29.2	5375450.3914	501980.06021614	sunny	12	230
SC708	grass	flat	loam	dry	63	29.1	5375451.2365	502290.71549273	sunny	12	230
SC709	grass	flat	loam	dry	65	29.5	5375453.3536	502592.49732878	sunny	12	230
SC710	grass	gentle	loam	dry	65	28.5	5375452.5063	502920.51820385	sunny	12	230
SC711	grass	flat	loam	dry	65	28.5	5375452.3316	503264.69935827	sunny	0-12	230
SC712	grass	flat	loam	dry	65	28.5	5375322.1742	503488.72712525	sunny	0-12	230
SC713	summerfallow	flat	loam	dry	65	28.5	5375127.9885	503614.54701912	sunny	0-12	230
SC714	grass	gentle	loam	dry	65	29.0	5375064.6335	503901.20269521	sunny	0-14	230
SC715	summerfallow	flat	loam	dry	65	29.0	5375079.2243	504246.61089904	sunny	0-14	230
SC716	grass	flat	loam	dry	65	29.1	5375122.4619	504537.41633154	sunny	0-12	230
SC717	stubble	flat	loam	dry	66	29.1	5375282.7645	504824.61217443	sunny	0-12	230
SC718	summerfallow	flat	loam	dry	66	29.1	5375451.2179	505130.56275629	sunny	0-12	230
SC719	stubble	flat	loam	dry	65	28.1	5375448.8156	505414.50284970	sunny	0-12	230
SC720	stubble	flat	loam	dry	66	28.9	5375449.7577	505779.99868296	sunny	0-13	230
SC721	grass	flat	loam	dry	66	29.1	5375447.8629	506043.48369580	sunny	0-12	230
SC722	grass	flat	loam	dry	66	28.9	5375448.2794	506369.82269566	sunny	15	230
SC723	weeds	flat	loam	dry	66	28.9	5375448.4819	506749.08204876	sunny	0-12	230
SC724	weeds	flat	silt	dry	66	28.8	5375449.3587	507130.76560331	sunny	5	230
SC725	weeds	flat	silt	dry	66	28.8	5375449.6544	507433.60047554	sunny	0-10	230
SC726	stubble	flat	silt	dry	66	28.7	5375448.4687	507745.91152810	sunny	0-10	230
SC727	grass	flat	loam	dry	66	28.7	5375448.4859	508086.70687007	sunny	0-10	230
SC728	grass	flat	silt	dry	66	28.7	5375450.9274	508414.32413064	sunny	2-12	230
SC729	grass	gentle	silt	dry	66	28.7	5375454.0741	508714.96787987	sunny	0-10	230
SC730	grass	flat	loam	dry	66	28.7	5375453.0976	509027.07487196	sunny	0-14	230
SC731	weeds	gentle	loam	dry	67	28.7	5375452.6055	509374.46090062	sunny	0-8	230
SC732	grass	flat	loam	dry	67	28.6	5375452.4393	509703.36942966	sunny	8	230
SC733	summerfallow	gentle	loam	dry	67	28.6	5375454.8488	510049.12271427	sunny	9	230
SC734	weeds	flat	loam	dry	67	28.6	5375268.7789	510385.80807129	sunny	5	230
SC735	grass	gentle	loam	dry	67	28.6	5375062.7442	510564.45673583	sunny	2-10	230
SC736	grass	flat	gravel	dry	67	28.6	5374944.0194	510788.10305681	sunny	0-13	230
SC737	grass	gentle	gravel	dry	67	28.6	5374884.8154	511092.31270288	sunny	0-10	230
SC738	grass	steep	loam	dry	67	28.6	5374658.0767	511369.23738957	sunny	0-10	230
SC739	grass	flat	gravel	dry	67	28.6	5374585.4760	511595.54630760	sunny	0-12	230
SC740	weeds	flat	silt	dry	67	28.9	5370989.6589	511949.85413179	sunny	7	137
SC741	weeds	gentle	clay	dry	67	28.9	5371271.7513	511802.68851989	sunny	12	137
SC742	grass	gentle	loam	dry	68	28.9	5371509.2913	511621.01505577	sunny	0-12	137
SC743	weeds	flat	gravel	dry	68	28.9	5371746.3530	511506.69034887	sunny	14	137
SC744	weeds	flat	loam	dry	68	28.9	5372087.2061	511506.11657092	sunny	0-15	137
SC745	grass	gentle	loam	dry	70	28.9	5372393.7571	511554.01525778	sunny	12	137
SC746	grass	gentle	loam	dry	70	29.0	5372705.2381	511507.09216327	sunny	0-12	137
SC747	grass	gentle	silt	dry	70	29.0	5373018.0365	511504.65649995	sunny	0-11	137
SC748	grass	gentle	loam	dry	70	29.0	5373357.7977	511505.14036939	sunny	0-15	137
SC749	grass	flat	loam	dry	70	29.0	5373662.3821	511518.86420675	sunny	0-10	137
SC750	grass	flat	loam	dry	70	28.9	5373950.6231	511608.17631956	sunny	0-10	137
SC751	grass	gentle	gravel	dry	72	28.9	5374220.6157	511667.59559504	sunny	0-10	137
SC752	grass	flat	loam	dry	70	28.9	5374498.7107	512022.75079605	sunny	0-12	230
SC753	grass	steep	loam	dry	70	28.9	5374733.9561	512254.30159982	sunny	5-12	230
SC754	grass	steep	loam	dry	72	28.8	5374882.6399	513381.49702672	sunny	0-11	230
SC755	grass	gentle	gravel	dry	75	28.9	5375033.1669	513611.75278495	sunny	0-11	230
SC756	grass	gentle	gravel	dry	75	28.9	5375192.6025	513854.54117121	sunny	0-12	230
SC757	grass	gentle	gravel	dry	75	28.5	5375395.1058	514120.23437982	sunny	5	230
SC758	grass	flat	gravel	dry	75	28.9	5375473.5498	514388.25966005	sunny	0-12	230
SC759	grass	flat	loam	dry	75	28.9	5375474.7131	514690.96051243	sunny	0-12	230
SC760	grass	flat	loam	dry	75	28.8	5375319.7183	514993.78195362	sunny	0-12	230
SC761	grass	gentle	loam	dry	77	28.5	5375184.0000	515297.88219898	sunny	8	230
SC762	grass	gentle	loam	dry	78	28.8	5374999.8956	515635.39735786	sunny	0-13	230
SC763	grass	flat	loam	dry	80	29.8	5375477.8362	516673.87037454	sunny	14	230
SC764	weeds	gentle	sand	dry	82	28.8	5379244.7115	514876.37242751	sunny	0-12	228
SC765	weeds	steep	loam	dry	85	28.5	5378954.5978	514643.36144618	sunny	10-18	228

TABLE 1A: DOE AREA1 MAGNETIC DATA LOCATIONS

DOESITENO	VEGETATION	SLOPE	SOIL	MOISTURE	AIRTEMP	BAROMETER	LATITUDE	LONGITUDE	WEATHER	WIND	LINE
SC766	grass	flat	loam	dry	85	28.8	5378673.2102	514352.16827621	sunny	10	228
SC767	summerfallow	gentle	loam	dry	85	28.9	5378369.3546	514622.95717977	sunny	0-10	228
SC768	grass	gentle	silt	dry	85	28.5	5378301.9568	514936.51739375	sunny	0-12	228
SC769	bare	steep	gravel	dry	85	28.5	5378254.7310	515237.31970963	sunny	17	228
SC770	bare	gentle	clay	dry	85	28.5	5378201.8609	515521.81222552	sunny	15	228
SC771	grass	gentle	loam	dry	85	28.5	5378285.5649	515825.55089463	sunny	0-10	228
SC772	grass	gentle	loam	dry	86	28.5	5378289.4524	516157.63067797	sunny	0-10	228
SC773	grass	flat	sand	dry	86	28.5	5378429.0835	516473.46046886	sunny	12	228
SC774		flat	loam	dry	86	28.5	5378702.0419	516556.17447547	sunny	0-12	228
SC775	grass	gentle	loam		86	28.5	5378702.0610	516863.36441369	sunny	0-12	228
SC776	grass	gentle	loam	dry	85	28.8	5378702.8889	517160.33263087	sunny	15	228
SC777	grass	gentle	loam	dry	86	28.5	5378703.5183	517501.72140057	sunny	8-20	228
SC778	summerfallow	gentle	loam	dry	86	28.7	5378704.8565	517829.86798320	sunny	0-13	228
SC779	summerfallow	gentle	loam	dry	86	28.7	5378780.3364	518109.40687621	sunny	0-12	228
SC780	weeds	gentle	gravel	dry	85	28.8	5378835.7971	518370.96878016	sunny	5-20	228
SC781	grass	flat	loam	dry	86	28.8	5378838.4976	518692.63218324	sunny	0-10	228
SC782	grass	flat	loam	dry	86	28.7	5378794.7376	519014.78867893	sunny	0-10	228
SC783	grass	flat	loam	dry	85	28.9	5378708.0258	519271.24268064	sunny	0-12	228
SC784	grass	flat	loam	dry	86	28.8	5378723.7915	519585.31792696	sunny	0-10	228
SC785	weeds	flat	loam	dry	86	28.9	5378733.1501	519714.07940334	sunny	0-10	228
SC786	grass	flat	loam	dry	57	29.3	5370696.8836	519503.16782188	sunny	24	132
SC787	grass	flat	loam	dry	59	29.3	5371059.3056	519501.65903049	sunny	25	132
SC788	grass	flat	loam	dry	58	29.3	5371402.9148	519500.10711114	sunny	25	132
SC789	grass	flat	loam	dry	59	29.3	5371727.4254	519497.90899790	sunny	25	132
SC790	grass	flat	loam	dry	59	29.1	5372024.7424	519496.24518981	sunny	25	132
SC791	grass	flat	loam	dry	59	29.0	5372325.1707	519496.36786706	sunny	12-25	132
SC792	grass	flat	loam	dry	60	28.9	5372652.2730	519493.26436583	sunny	12-25	132
SC793	stubble	flat	loam	dry	61	28.8	5373023.4861	519491.74209773	sunny	10-20	132
SC794	grass	flat	loam	dry	62	28.7	5373289.0338	519490.27701449	sunny	10-20	132
SC795	grass	flat	loam	dry	63	28.7	5373619.0687	519486.50078876	sunny	15-25	132
SC796	grass	flat	loam	dry	64	28.9	5373887.4465	519483.18240677	sunny	12-20	132
SC797	grass	flat	loam	dry	65	28.5	5373885.2154	519109.16924737	sunny	25	132
SC798	grass	flat	loam	dry	65	28.5	5374295.4348	519081.17886068	sunny	25	132
SC799	grass	flat	loam	dry	65	28.5	5374664.1412	519078.17132064	sunny	15-20	132
SC800	grass	flat	gravel	dry	68	28.5	5374752.5183	518680.57351958	sunny	15-20	132
SC801	grass	gentle	loam	dry	68	28.5	5375125.1909	518674.09236891	sunny	25	132
SC802	grass	flat	loam	dry	70	28.5	5375488.4163	518674.18951917	sunny	25	132
SC803	grass	flat	loam	dry	70	28.9	5375498.2536	518294.64253265	sunny	25	132
SC804	grass	flat	loam	dry	70	28.5	5375721.6848	517924.51599002	sunny	10-25	132
SC805	weeds	gentle	silt	dry	70	28.5	5376085.9354	517923.57152006	sunny	25	132
SC806	grass	flat	loam	dry	70	28.4	5376430.5195	517925.78351174	sunny	25	132
SC807	stubble	flat	loam	dry	70	28.5	5376764.9603	517925.83644402	sunny	25	132
SC808	grass	steep	silt	dry	70	28.5	5377062.2322	517925.87039380	sunny	25	132
SC809	weeds	gentle	loam	dry	70	29.2	5377384.2365	517921.64347381	sunny	22	132
SC810	grass	gentle	silt	dry	70	29.2	5377724.9795	517972.47243498	sunny	25	132
SC811	sagebrush	flat	loam	dry	70	28.5	5378039.2710	517933.21475778	sunny	25	132
SC812	weeds	flat	clay	dry	72	29.2	5378336.1426	517922.79821914	sunny	10-20	132
SC813	grass	flat	loam	dry	73	29.2	5378704.4037	517912.55113877	sunny	25	132
SC814	grass	flat	loam	dry	72	29.2	5375091.8299	516679.34921458	sunny	10-20	133
SC815	grass	flat	loam	dry	72	29.2	5374811.6350	516678.73473240	sunny	25	133
SC816	grass	flat	loam	dry	75	29.2	5374458.9055	516678.15003424	sunny	15	133
SC817	grass	flat	loam	dry	74	29.0	5374043.5814	516836.24284903	sunny	15	133
SC818	bare	flat	gravel	dry	74	29.1	5374051.8884	517433.62438211	sunny	25	133
SC819	weeds	gentle	loam	dry	74	29.0	5373782.2411	517695.46770488	sunny	20	133
SC820	grass	flat	loam	dry	75	29.0	5373502.3279	517929.91961456	sunny	22	133
SC821	grass	flat	loam	dry	74	29.1	5373067.8964	517931.94204753	sunny	22	133
SC822	grass	flat	loam	dry	75	29.0	5372624.8159	517932.38441397	sunny	23	133
SC823	stubble	flat	loam	dry	75	29.0	5372312.4749	517932.88119263	sunny	22	133
SC824	grass	flat	loam	dry	74	28.8	5372080.9012	517938.47041005	sunny	22	133
SC825	grass	flat	sand	dry	74	29.0	5372277.8793	518345.91609727	sunny	15-25	133
SC826	grass	flat	loam	dry	75	29.0	5372278.9514	518658.00133138	sunny	25	133
SC827	grass	flat	gravel	dry	75	29.0	5372280.1963	518931.09280716	sunny	22	133
SC828	grass	flat	loam	dry	75	28.6	5372281.6007	519263.34271989	sunny	24	133
SC829	grass	gentle	silt	dry	75	28.8	5371069.0546	524336.77846866	sunny	25	128
SC830	grass	flat	loam	dry	75	28.8	5371440.9738	524336.23636024	sunny	25	128
SC839	weeds	flat	loam	dry	80	28.8	5373986.6177	524318.34009920	sunny	15-23	128
SC831	weeds	gentle	silt	dry	80	28.8	5371759.8178	524332.08381367	sunny	22	128
SC832	weeds	gentle	silt	dry	80	28.8	5372055.3684	524196.49842136	sunny	15-25	128
SC833	grass	gentle	loam	dry	80	28.8	5372326.7819	524055.31518295	sunny	25	128
SC834	grass	gentle	silt	dry	80	28.8	5372612.2421	523917.51042916	sunny	15-22	128
SC835	grass	flat	silt	dry	80	28.8	5372940.2665	523895.06315492	sunny	15-22	128
SC836	grass	flat	loam	dry	80	28.8	5373254.7792	524080.72133219	sunny	22	128
SC837	grass	flat	silt	dry	80	28.9	5373380.5104	524257.24776250	sunny	15-24	128

TABLE 1A: DOE AREA1 MAGNETIC DATA LOCATIONS

DOESITENO	VEGETATION	SLOPE	SOIL	MOISTURE	AIRTEMP	BAROMETER	LATITUDE	LONGITUDE	WEATHER	WIND	LINE
SC838	weeds	gentle	loam	dry	80	28.9	5373695.7983	524184.68002722	sunny	15-25	128
SC840	grass	gentle	loam	dry	80	28.8	5374303.6282	524321.19565216	sunny	22	128
SC841	grass	flat	loam	dry	80	28.9	5374618.7452	524324.73796210	sunny	15-20	128
SC842	grass	gentle	loam	dry	80	28.9	5374967.6533	524471.10680816	sunny	22	128
SC843	grass	flat	loam	dry	80	28.9	5375301.0369	524477.02825432	sunny	25	128
SC844	grass	flat	loam	dry	80	28.9	5375550.6977	524349.06891344	sunny	25	128
SC845	grass	flat	loam	dry	80	28.8	5375762.1579	524300.20852657	sunny	25	128
SC846	grass	flat	loam	dry	80	28.8	5376020.9789	524300.84432564	sunny	25	128
SC847	grass	flat	loam	dry	80	28.9	5376335.7334	524298.33828240	sunny	17-25	128
SC848	grass	gentle	loam	dry	80	28.9	5376670.5426	524296.68086712	sunny	25	128
SC849	grass	flat	silt	dry	80	28.7	5377108.7174	524288.39898398	sunny	25	128
SC850	grass	gentle	loam	dry	82	28.9	5377114.5722	521853.45355034	sunny	23	130
SC851	grass	gentle	loam	dry	82	28.6	5377110.5754	521542.49746391	sunny	24	130
SC852	weeds	steep	clay	dry	82	28.7	5377110.5202	521223.64169824	sunny	17-25	130
SC853	bare	gentle	gravel	dry	82	28.7	5376868.1012	520913.71658561	sunny	25	130
SC854	weeds	gentle	silt	dry	82	28.5	5376595.1046	520505.69853658	sunny	10-25	130
SC855	grass	gentle	loam	dry	82	28.6	5376342.6304	520285.51467965	sunny	23	130
SC856	weeds	gentle	loam	dry	82	28.5	5376081.0334	520191.65596190	sunny	25	130
SC857	grass	gentle	loam	dry	82	28.5	5375941.2623	519899.38640566	sunny	25	130
SC858	weeds	gentle	loam	dry	82	28.5	5375730.4461	519673.11016779	sunny	10-23	130
SC859	summerfallow	steep	loam	dry	86	28.5	5375459.8844	519622.84715368	sunny	24	130
SC860	grass	flat	loam	dry	86	28.5	5375221.3198	519692.39143439	sunny	23	130
SC861	summerfallow	gentle	loam	dry	87	28.4	5374923.2905	519855.59051252	sunny	23	130
SC862	grass	flat	loam	dry	87	28.2	5374694.8369	520088.77519273	sunny	27	130
SC863	weeds	flat	loam	dry	88	28.3	5374423.1526	520282.42413976	sunny	23	130
SC863w	summerfallow	gentle	loam	dry	90	28.2	5373899.2506	519863.34902064	sunny	25	233
SC864	summerfallow	gentle	loam	dry	89	28.3	5373898.3212	520288.03027176	sunny	23	130
SC865	grass	gentle	loam	dry	90	28.2	5373874.6594	520674.16261737	sunny	23	233
SC866	summerfallow	gentle	silt	dry	90	28.2	5373889.9675	520985.79277946	sunny	23	233
SC867	summerfallow	flat	silt	dry	90	28.2	5373895.0010	521286.75076644	sunny	13-23	233
SC868	grass	gentle	loam	dry	90	28.3	5373852.7487	521604.93298407	sunny	23	233
SC869	grass	flat	loam	dry	90	28.2	5373905.9551	521894.91997465	partly overcast	15-25	233
SC870	grass	flat	sand	dry	90	28.2	5373892.9133	522205.68693840	sunny	24	233
SC872	grass	gentle	loam	dry	90	28.2	5373832.2251	522614.64639214	sunny	23	233
SC873	grass	gentle	loam	dry	90	28.2	5373903.9765	522946.19279695	sunny	10-20	233
SC874	grass	flat	loam	dry	90	28.2	5373911.1763	523251.98765001	sunny	15-25	233
SC875	grass	flat	loam	dry	90	28.4	5373910.5870	523595.16436316	sunny	12-20	233
SC876	grass	flat	loam	dry	90	28.5	5373910.4021	523912.18672501	sunny	13-22	233
SC877	grass	flat	loam	dry	90	28.3	5373912.8181	524224.17370092	partly overcast	23	233
SC878	grass	flat	loam	dry	90	28.5	5373918.0671	524832.68904722	partly overcast	12-25	233
SC879	grass	flat	loam	dry	90	28.5	5373920.0077	525052.09500805	sunny	10-20	233
SC880	grass	flat	loam	dry	90	28.5	5373920.9966	525353.40382082	sunny	12-25	233
SC881	grass	flat	loam	dry	90	28.5	5373930.7452	525706.53409084	sunny	26	233
SC882	grass	gentle	loam	dry	90	28.5	5373990.3418	525998.01603767	sunny	12-25	233
SC883	grass	gentle	loam	dry	90	28.5	5374214.6831	526248.78910960	sunny	23	233
SC884	grass	gentle	loam	dry	90	28.5	5374388.1449	526447.76587883	sunny	25	233
SC885	weeds	flat	loam	dry	90	28.5	5374523.4186	526738.79450092	sunny	15-28	233
SC886	summerfallow	flat	loam	damp	75	27.9	5362656.7746	526776.92575741	sunny	10-19	240
SC887	summerfallow	flat	silt	damp	75	27.9	5362652.3751	525895.44466623	sunny	10	240
SC888	summerfallow	flat	loam	wet	76	27.9	5362648.4061	525113.28366070	sunny	0-10	240
SC889	grass	flat	loam	damp	78	28.9	5362645.9540	524347.43339927	sunny	13	240
SC890	grass	flat	loam	damp	78	28.9	5362643.7374	523806.36077391	sunny	12	240
SC891	grass	flat	loam	wet	78	28.8	5362641.5419	523321.77341703	sunny	0-10	240
SC892	grass	flat	loam	damp	76	27.5	5362639.8982	522870.96782585	sunny	0-10	240
SC893	grass	flat	silt	damp	76	27.5	5362638.6659	522368.01078595	sunny	0-5	240
SC894	grass	gentle	loam	dry	78	27.5	5362636.9293	521761.01176842	sunny	2	240
SC895	grass	flat	loam	damp	78	27.5	5362635.8770	521400.28184303	sunny	0-5	240
SC896	grass	flat	loam	wet	78	27.5	5362634.3437	521097.10877784	sunny	0-5	240
SC897	grass	flat	loam	wet	78	27.5	5362633.5348	520735.41574136	sunny	0-5	240
SC898	grass	flat	loam	wet	79	27.5	5362632.6324	520428.94963571	sunny	0-10	240
SC899	stubble	gentle	loam	damp	78	27.5	5362632.6504	520135.87756065	sunny	0-10	240
SC900	summerfallow	flat	silt	damp	78	27.8	5362630.8979	519809.14258184	sunny		240
SC901	weeds	flat	loam	wet	78	27.5	5362629.7261	519149.53016912	sunny	0-10	240
SC902	weeds	flat	loam	wet	78	27.5	5362630.3946	519474.99548415	sunny	0-10	240
SC903	weeds	flat	loam	wet	78	27.5	5362628.4317	518841.87338901	sunny	0-8	240
SC904	grass	flat	loam	dry	78	27.5	5362627.3331	518507.28042253	sunny	5	240
SC905	grass	flat	loam	damp	78	27.6	5362625.7899	518184.63239806	sunny	0-10	240
SC906	grass	gentle	loam	damp	78	27.6	5362624.7019	517867.45166743	sunny	0-12	240
SC907	grass	gentle	loam	damp	78	27.8	5362623.3584	517513.90550114	sunny	0-10	240
SC908	grass	flat	loam	damp	78	27.7	5362621.7347	517162.13886409	sunny	0-12	240
SC909	grass	gentle	silt	damp	78	27.6	5362615.6287	516879.54148937	sunny	2-9	240
SC910	grass	flat	sand	dry	78	27.6	5362590.9676	516522.74261308	sunny	5-15	240
SC911	grass	gentle	silt	dry	78	27.6	5362519.6952	516222.26334543	sunny	0-7	240

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DOESITENO	VEGETATION	SLOPE	SOIL	MOISTURE	AIRTEMP	BAROMETER	LATITUDE	LONGITUDE	WEATHER	WIND	LINE
SC912	grass	gentle	loam	damp	78	27.6	5362616.5432	515945.34324634	sunny	8	240
SC913	grass	flat	silt	dry	78	27.9	5362613.7507	515647.54697073	sunny	6	240
SC914	grass	gentle	loam	damp	78	27.6	5362612.0453	515302.26327489	sunny	9	240
SC915	grass	flat	silt	dry	78	27.6	5362797.7446	515133.22626835	sunny	0-10	240
SC916	grass	flat	loam	damp	78	27.6	5362533.9472	514837.58569761	sunny	0-9	240
SC917	grass	gentle	loam	dry	80	27.7	5362601.7158	514481.41208184	sunny	5	240
SC918	summerfallow	gentle	loam	damp	78	27.7	5362604.0061	514159.24433258	sunny	5	240
SC919	summerfallow	flat	loam	dry	78	27.6	5362604.2896	513808.57279933	sunny	15	240
SC920	grass	steep	loam	damp	78	27.8	5362595.4771	513549.91010074	sunny	9	240
SC921	grass	gentle	silt	dry	79	27.6	5362591.9865	513225.55881933	sunny	2	240
SC922	grass	steep	sand	damp	79	27.8	5362606.6188	512877.74887064	sunny	8	240
SC923	grass	gentle	silt	damp	79	27.8	5362600.9146	512459.95257132	sunny	9	240
SC924	grass	gentle	loam	dry	79	27.7	5362598.2513	512153.20176121	sunny	5	240
SC925	grass	steep	silt	dry	79	27.8	5362720.4602	511850.33142683	sunny	12	240
SC926	summerfallow	gentle	loam	damp	78	28.7	5362838.8408	511578.60886595	sunny	8	240
SC927	weeds	gentle	loam	dry	79	28.0	5363116.9912	511509.32686960	sunny	0-10	240
SC928	grass	gentle	loam	dry	79	27.8	5363446.1939	511513.72845491	sunny	0-12	240
SC929	grass	gentle	gravel	dry	78	27.8	5363709.1778	511469.89512192	sunny	0-10	240
SC930	grass	gentle	silt	dry	78	27.7	5363544.5954	511211.83905172	sunny	0-13	240
SC931	grass	gentle	loam	dry	78	27.7	5363329.2209	510958.34970830	sunny	0-10	240
SC932	grass	flat	silt	dry	78	27.8	5363177.2920	510693.31523093	sunny	0-12	240
SC933	grass	gentle	clay	dry	78	27.8	5363094.1463	510382.83395630	sunny	0-10	240
SC934	grass	gentle	sand	dry	78	27.9	5363047.6121	510057.09286425	sunny	9	240
SC935	grass	gentle	loam	dry	80	27.8	5363017.7993	509724.61765045	sunny	0-5	240
SC936	grass	flat	loam	dry	80	27.8	5363106.4549	509431.79110807	sunny	3	240
SC937	grass	gentle	silt	dry	80	27.9	5363385.6362	509295.35643343	sunny	0	240
SC938	grass	flat	loam	damp	78	27.8	5363702.7492	509273.49733419	sunny	0	240
SC939	grass	gentle	loam	damp	78	27.6	5364029.3367	509260.62115005	sunny	0	240
SC940	grass	flat	silt	damp	78	27.6	5364338.0075	509357.30561872	sunny	0-7	240
SC941	grass	flat	loam	damp	78	27.8	5364688.3375	509458.94917625	partly overcast	8	240
SC942	summerfallow	flat	loam	damp	80	27.8	5364950.6560	509515.56500195	sunny	0-5	240
SC943	weeds	flat	loam	damp	78	27.8	5365286.2217	509518.00474833	sunny	0-9	240
SC944	bare	gentle	loam	damp	78	27.8	5365599.0024	509518.93768155	sunny	0-9	240
SC945	grass	gentle	loam	wet	78	27.8	5365808.3478	509390.36358080	sunny	0-12	240
SC946	grass	gentle	gravel	damp	78	27.9	5365801.2111	509096.95899774	sunny	7	240
SC947	summerfallow	gentle	loam	damp	78	27.8	5365802.5037	508762.27340751	sunny	0-5	240
SC948	grass	gentle	loam	damp	76	27.8	5365800.7597	508433.30703071	sunny	0-9	240
SC949	grass	gentle	gravel	damp	78	27.3	5365635.6672	508196.98875161	sunny	8	240
SC950	grass	steep	loam	damp	77	27.8	5365489.7411	507897.41108589	sunny	0-5	240
SC951	grass	steep	loam	dry	78	27.7	5365604.3753	507645.09407826	sunny	0-10	240
SC952	grass	gentle	silt	dry	78	27.6	5365732.9605	507373.86119176	sunny	8	240
SC953	grass	gentle	loam	wet	77	27.6	5365803.0004	507103.81434595	sunny	0-15	240
SC954	grass	flat	loam	damp	77	27.7	5365800.5843	506720.85848180	sunny	0	240
SC955	grass	gentle	loam	damp	77	27.6	5365805.0800	506345.66045876	sunny	0-6	240
SC956	grass	gentle	loam	wet	77	27.8	5365804.3114	505798.29513778	sunny	0-9	240
SC957	grass	gentle	loam	damp	77	27.7	5365802.3598	505473.82464631	sunny	0-5	240
SC958	grass	gentle	loam	damp	77	27.7	5365805.0177	505124.87322257	sunny	0-9	240
SC959	weeds	flat	silt	damp	77	27.8	5366174.5030	505111.68084939	sunny	0-7	240
SC960	weeds	gentle	loam	damp	77	27.7	5366607.3693	505088.01769946	sunny	0-10	240
SC961	grass	flat	loam	damp	77	27.7	5366608.0073	504567.01221321	sunny	0-6	240
SC962	weeds	gentle	silt	damp	76	27.7	5366640.7315	504061.56609057	sunny	0-12	240
SC963	summerfallow	gentle	loam	dry	77	27.7	5367000.5029	503798.41959425	sunny	0-9	240
SC964	stubble	gentle	silt	damp	77	27.8	5367014.6192	503286.80008076	sunny	8	240
SC965	summerfallow	gentle		damp	77	27.7	5367012.2678	502427.73738213	sunny	8	240
SC966	summerfallow	gentle	loam	damp	77	27.7	5367318.9790	501891.61270944	sunny	5-10	240
SC967	stubble	gentle	loam	damp	77	27.7	5367412.0063	501094.25325456	sunny	0-10	240
SC968	weeds	gentle	silt	damp	77	27.7	5367379.7146	500319.85561565	sunny	0-7	240
SC969	weeds	steep	clay	dry	76	27.7	5369020.4387	498685.65729223	sunny	0-12	236
SC970	grass	gentle	loam	dry	76	27.7	5369018.4246	499499.38526397	sunny	0-15	236
SC971	weeds	gentle	loam	dry	76	27.7	5369018.6270	500373.78807020	sunny	21	236
SC972	stubble	gentle	loam	dry	76	27.7	5369017.6966	501064.31511488	sunny	0-16	236
SC973	weeds	gentle	loam	dry	76	27.7	5369017.3524	501906.59408589	sunny	0-16	236
SC974	bare	gentle	loam	dry	76	27.7	5369018.3939	502384.33383233	sunny	0-16	236
SC975	grass	gentle	loam	dry	76	27.7	5369015.7841	502898.68820386	sunny	0-16	236
SC976	grass	gentle	loam	dry	76	27.7	5369016.2969	503378.75078491	sunny	0-16	236
SC977	grass	gentle	loam	dry	76	27.7	5369015.4600	503920.52108963	sunny	0-16	236
SC978	grass	gentle	loam	dry	76	27.7	5369015.6749	504225.48946646	sunny	0-16	236
SC979	grass	gentle	loam	dry	76	27.7	5369015.7595	504573.26160173	sunny	0-17	236
SC980	grass	gentle	loam	dry	76	27.7	5369015.2027	504905.49464150	sunny	0-17	236
SC981	grass	gentle	loam	dry	76	27.7	5368858.6999	505107.22012297	sunny	0-17	236
SC982	grass	gentle	loam	dry	76	27.7	5368479.3607	505107.39005836	sunny	0-17	236
SC983	grass	flat	silt	dry	76	27.7	5369025.5000	505153.031	sunny	0-15	236
SC984	grass	flat	silt	dry	76	27.7	5369019.5000	505420.094	sunny	0-15	236

TABLE 1A: DOE AREA1 MAGNETIC DATA LOCATIONS

DOESITENO	VEGETATION	SLOPE	SOIL	MOISTURE	AIRTEMP	BAROMETER	LATITUDE	LONGITUDE	WEATHER	WIND	LINE
SC985	grass	steep	silt	dry	77	27.6	5369025.5000	505664.406	sunny	0-15	236
SC986	grass	gentle	silt	dry	77	27.6	5369031.0000	505982.594	sunny	0-15	236
SC987	grass	steep	silt	dry	77	27.5	5369025.5000	506238.281	sunny	0-10	236
SC988	grass	gentle	silt	dry	77	27.5	5369025.5000	506482.594	sunny	0-8	236
SC989	weeds	steep	silt	dry	78	27.5	5369019.6725	506709.86262852	sunny	0-7	236
SC990	grass	flat	loam	dry	78	27.7	5369021.9809	507045.60493418	sunny	0-15	236
SC991	grass	steep	loam	dry	78	27.7	5369023.5922	507377.30309828	sunny	0-15	236
SC992	grass	steep	loam	dry	78	27.7	5368750.5232	507527.76982393	sunny	0-15	236
SC993	grass	flat	loam	dry	78	27.7	5368854.9169	507889.64477298	sunny	0-15	236
SC994	grass	gentle	loam	dry	78	27.7	5368884.9301	508205.21849179	sunny	0-15	236
SC995	grass	gentle	loam	dry	78	27.7	5368916.0996	508503.01443783	sunny	0-15	236
SC996	grass	gentle	loam	dry	78	27.7	5368824.5822	508747.95889272	sunny	0-15	236
SC997	grass	gentle	loam	dry	78	27.7	5368487.4155	508698.54159575	sunny	0-15	236
SC998	grass	gentle	loam	dry	78	27.7	5368459.7184	508970.52583078	sunny	0-15	236
SC999	grass	gentle	gravel	dry	78	27.7	5368489.6806	509304.41905866	sunny	0-15	236
SC1000	grass	gentle	gravel	dry	80	27.5	5368527.2385	509695.98631402	sunny	0-15	236
SC1001	grass	gentle	silt	dry	80	27.5	5368471.8114	509935.72347194	sunny	0-15	236
SC1002	grass	gentle	silt	dry	80	27.5	5368588.3424	510225.74751302	sunny	0-15	236
SC1003	grass	gentle	silt	dry	80	27.5	5368770.5253	510489.99648113	sunny	0-15	236
SC1004	grass	gentle	silt	dry	80	27.5	5369065.8343	510676.22199162	sunny	0-15	236
SC1005	grass	flat	silt	dry	80	27.7	5369080.5717	510966.67448757	sunny	0-15	236
SC1006	grass	flat	silt	dry	80	27.7	5369053.0380	511231.33082469	sunny	0-15	236
SC1007	grass	flat	silt	dry	80	27.7	5369022.3688	511721.10994472	sunny	0-15	236
SC1008	grass	gentle	silt	dry	80	27.7	5369015.2311	512214.84912262	sunny	0-15	236
SC1009	grass	gentle	silt	dry	80	27.7	5369027.7339	512730.65404265	sunny	0-15	236
SC1010	grass	gentle	silt	dry	80	27.7	5369035.5000	513096.563	sunny	0-15	236
SC1011	grass	gentle	silt	dry	80	27.7	5369044.5000	513355.000	sunny	0-15	236
SC1012	grass	steep	silt	dry	80	27.7	5369031.2792	513608.99381726	sunny	0-15	236
SC1013	grass	steep	silt	dry	80	27.7	5369036.9843	513884.83934094	sunny	0-15	236
SC1014	grass	gentle	silt	dry	80	27.7	5369046.5795	514246.91881190	sunny	0-15	236
SC1015	grass	gentle	silt	dry	80	27.7	5369053.6261	514579.41280855	sunny	0-15	236
SC1016	grass	gentle	silt	dry	80	27.7	5369047.3096	514930.61772322	sunny	0-15	236
SC1017	grass	gentle	silt	dry	80	27.7	5369048.6449	515242.20373750	sunny	0-15	236
SC1018	stubble	gentle	loam	dry	80	27.7	5369048.2707	515568.61978944	sunny	0-15	236
SC1019	summerfallow	gentle	loam	dry	80	27.7	5369048.3653	515875.01352425	sunny	0-15	236
SC1020	summerfallow	gentle	loam	dry	80	27.7	5369049.4140	516221.84238915	sunny	0-15	236
SC1021	grass	gentle	loam	dry	80	27.7	5369052.2954	516555.50085994	sunny	0-15	236
SC1022	summerfallow	gentle	loam	dry	80	27.7	5369054.4510	516888.12313949	sunny	0-15	236
SC1023	grass	gentle	loam	dry	79	27.7	5369055.1691	517223.92635977	sunny	0-15	236
SC1024	grass	gentle	loam	dry	79	27.7	5369057.4750	517540.94086739	sunny	0-15	236
SC1025	grass	flat	loam	dry	79	27.6	5369061.3432	518164.62959222	sunny	0-12	236
SC1026	grass	flat	loam	dry	79	27.6	5369064.1469	518525.23299217	sunny	0-12	236
SC1027	grass	flat	silt	dry	79	27.6	5369063.7466	518845.45951471	sunny	0-12	236
SC1028	grass	flat	silt	dry	79	27.6	5369063.6695	519208.31273987	sunny	0-12	236
SC1029	grass	flat	silt	dry	79	27.6	5369064.8133	519514.44840942	sunny	0-12	236
SC1030	summerfallow	flat	silt	dry	79	27.6	5369066.2058	519820.00943197	sunny	0-12	236
SC1031	summerfallow	flat	loam	dry	79	27.6	5369068.6068	520133.83487479	sunny	0-10	236
SC1031	weeds	flat	loam	dry	79	27.6	5369069.0131	520436.78179190	sunny	0-10	236
SC1033	weeds	flat	loam	dry	79	27.6	5369070.6709	520782.78569606	sunny	0-10	236
SC1034	summerfallow	flat	loam	dry	79	27.6	5369071.7672	521141.49837798	sunny	0-10	236
SC1035	grass	flat	loam	dry	79	27.6	5369071.4537	521655.38034394	sunny	0-10	236
SC1036	summerfallow	flat	gravel	dry	79	27.6	5369074.8605	522129.01833892	sunny	0-10	236
SC1037	summerfallow	flat	gravel	dry	79	27.6	5369074.5913	522629.10964765	partly overcast	0-10	236
SC1038	summerfallow	flat	gravel	dry	79	27.6	5369078.9776	523107.42982767	partly overcast	0-10	236
SC1039	grass	flat	loam	dry	79	27.6	5369078.7552	523620.21647886	partly overcast	0-10	236
SC1040	summerfallow	flat	loam	dry	79	27.6	5369070.6255	524350.38709841	partly overcast	0-10	236
SC1041	weeds	flat	loam	dry	79	28.0	5369112.6085	525218.01606185	partly overcast	0-10	236
SC1042	summerfallow	flat	loam	dry	79	28.0	5369076.7119	525923.29337331	partly overcast	0-10	236
SC1043	grass	flat	loam	dry	79	28.0	5368463.8620	526422.54514830	partly overcast	0-10	236
SC1044	weeds	flat	loam	dry	78	28.0	5368290.4797	526871.40694655	partly overcast	0-10	236
SC1045	summerfallow	gentle	loam	dry	70	28.4	5379298.5426	516496.85641783	sunny	0-10	134
SC1046	summerfallow	gentle	loam	dry	73	28.4	5378605.7020	516498.12012409	sunny	0-10	134
SC1047	grass	gentle	loam	dry	76	28.4	5378148.1331	516573.78042282	sunny	0-10	134
SC1048	grass	steep	loam	dry	78	28.4	5377933.7783	516911.02481130	sunny	0-10	134
SC1049	grass	flat	loam	dry	78	28.4	5377481.2315	516733.04648938	sunny	0-10	134
SC1050	grass	gentle	loam	dry	78	28.4	5377032.7561	516580.13486804	sunny	0-10	134
SC1051	grass	gentle	loam	dry	78	28.4	5376557.1634	516580.94006370	sunny	0-10	134
SC1052	grass	flat	loam	dry	78	28.4	5376081.8637	516581.93093044	sunny	0-10	134
SC1053	grass	gentle	loam	dry	78	28.4	5375616.9954	516582.69318634	sunny	0-10	134
SC1054	grass	gentle	loam	dry	78	28.4	5375477.7981	516299.46111705	sunny	0-10	134
SC1055	grass	gentle	loam	dry	78	28.4	5375201.2902	516069.30833173	sunny	0-10	134
SC1056	grass	gentle	loam	dry	78	28.4	5374923.0698	515901.34841888	sunny	0-10	134
SC1057	grass	gentle	loam	dry	78	28.4	5374672.3864	515710.98674533	sunny	0-10	134

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DOESITENO	VEGETATION	SLOPE	SOIL	MOISTURE	AIRTEMP	BAROMETER	LATITUDE	LONGITUDE	WEATHER	WIND	LINE
SC1058	grass	gentle	loam	dry	78	28.2	5374455.9631	515468.06371599	sunny	0-10	134
SC1059	grass	gentle	loam	dry	78	28.2	5374230.6502	515243.26610839	sunny	0-10	134
SC1060	grass	gentle	loam	dry	78	28.2	5374004.5092	515009.16508906	sunny	0-10	134
SC1061	grass	gentle	loam	dry	78	28.2	5373760.8628	514799.46314757	sunny	0-10	134
SC1062	grass	gentle	loam	dry	78	28.2	5373537.7382	514562.81583246	sunny	0-10	134
SC1063	grass	gentle	loam	dry	82	28.0	5373255.8306	514324.33085687	sunny	0-10	134
SC1064	grass	gentle	loam	dry	82	28.0	5372955.3555	514174.58490827	sunny	0-10	134
SC1065	grass	gentle	loam	dry	82	28.0	5372674.2697	514006.94141165	sunny	0-10	134
SC1066	grass	gentle	loam	dry	82	28.0	5372366.2120	513918.58052715	sunny	0-10	134
SC1067	grass	flat	loam	dry	82	28.0	5372093.9341	513710.26313656	sunny	0-10	134
SC1068	grass	flat	loam	dry	82	28.0	5371754.4291	513621.26823258	sunny	0-10	134
SC1069	grass	steep	loam	dry	82	28.0	5371456.2413	513606.30630299	sunny	0-10	134
SC1070	grass	flat	loam	dry	82	28.0	5371211.5350	513454.14963136	sunny	0-10	134
SC1071	grass	flat	loam	dry	82	28.0	5371005.3556	513901.97706294	sunny	0-10	134
SC1072	grass	flat	loam	dry	82	28.0	5370667.8897	513683.46729648	sunny	0-10	134
SC1073	grass	gentle	loam	dry	83	27.8	5370344.5746	514117.43124083	sunny	0-10	134
SC1074	grass	gentle	loam	dry	83	27.8	5370072.4781	513952.17976130	sunny	0-10	134
SC1075	grass	gentle	loam	dry	83	27.8	5369726.9632	513974.67311853	sunny	0-10	134
SC1076	grass		loam	dry	83	27.8	5369401.0818	513983.00829403	sunny	0-15	134
SC1077	grass	gentle	loam	dry	83	27.8	5369063.7557	513914.32264621	sunny	0-15	134
SC1078	grass	gentle	loam	dry	83	27.8	5368769.0373	513919.85248951	sunny	0-15	134
SC1079	grass	flat	loam	dry	85	27.8	5368455.4055	513915.95354123	sunny	0-15	134
SC1080	grass	gentle	loam	dry	85	27.7	5368123.5535	513891.37963245	sunny	0-15	134
SC1081	grass	flat	loam	dry	85	27.7	5367812.9646	513915.82993579	sunny	0-15	134
SC1082	grass	flat	loam	dry	85	27.7	5367440.1657	513920.59253239	sunny	0-15	134
SC1083	grass	flat	loam	dry	85	27.7	5366983.8197	514045.51230602	sunny	0-15	134
SC1084	grass	gentle	loam	dry	85	27.7	5366639.1790	514238.96353946	sunny	0-10	134
SC1085	grass	gentle	loam	dry	85	27.7	5366336.1890	514306.24994584	sunny	0-10	134
SC1086	grass	steep	loam	dry	85	27.7	5366036.7623	514394.23106352	sunny	0-10	134
SC1087	grass	steep	loam	dry	85	27.7	5365737.7055	514454.29748265	sunny	0-10	134
SC1088	grass	steep	loam	dry	85	27.7	5365509.9252	514292.62993585	sunny	10-20	134
SC1089	grass	gentle	loam	dry	85	27.7	5365202.3844	514454.63573397	sunny	10-20	134
SC1090	grass	gentle	loam	dry	85	27.7	5365037.9127	514728.97394935	sunny	10-20	134
SC1091	grass	gentle	loam	dry	85	27.7	5364711.2804	514731.63531926	sunny	10-15	134
SC1092	grass	gentle	loam	dry	85	27.7	5364369.3482	514740.27887472	sunny	10-15	134
SC1093	grass	flat	loam	dry	85	27.7	5364047.4186	514738.39293759	sunny	10-15	134
SC1094	weeds	flat	loam	dry	85	27.7	5363637.5246	514739.63262393	sunny	10-15	134
SC1095	grass	flat	loam	dry	85	27.7	5363377.5756	515005.21429971	sunny	10-15	134
SC1096	grass	flat	loam	dry	85	27.7	5363101.4247	515132.93849696	sunny	10-15	134
SC1097	grass	flat	loam	dry	85	27.7	5362528.3766	514805.13065263	sunny	10-15	134
SC1098	summerfallow	gentle	loam	dry	85	27.7	5362194.2966	514747.76841369	sunny	10-15	134
SC1099	summerfallow	flat	loam	dry	85	27.7	5361865.1906	514832.58225408	sunny	10-15	134
SC1100	grass	gentle	gravel	dry	86	27.7	5361590.5192	514755.25705965	sunny	10-15	134
SC1101	grass	gentle	gravel	dry	86	27.7	5361240.7967	514773.18998836	sunny	10-15	134
SC1102	weeds	gentle	gravel	dry	86	27.7	5360974.1910	514759.84419048	sunny	10-15	134
SC1103	grass	gentle	gravel	dry	86	27.7	5360624.2423	514757.38705868	sunny	10-20	134
SC1104	grass	gentle	loam	dry	86	27.7	5360313.2099	514760.78771555	sunny	10-20	134
SC1105	grass	gentle	loam	dry	86	27.7	5359852.0635	514758.44031849	sunny	10-20	134
SC1106	grass	flat	loam	dry	86	27.7	5359361.0520	514752.83231997	sunny	10-20	134
SC1107	grass	flat	loam	dry	86	27.7	5358899.7318	514752.49001189	sunny	10-18	134
SC1108	bare	flat	loam	dry	86	27.7	5358345.9854	514754.88832992	sunny	10-18	134
SC1109	stubble	flat	loam	dry	86	27.7	5357782.2150	514755.32167616	sunny	10-18	134
SC1110	grass	flat	loam	dry	86	27.7	5357146.0303	514756.06331122	sunny	10-18	134
SC1111	grass	flat	loam	dry	86	27.7	5356555.9643	514757.01967364	sunny	10-18	134
SC1112	grass	flat	loam	dry	86	27.7	5356190.6886	514759.48529010	sunny	10-18	134
SC1113	summerfallow	flat	loam	dry	86	27.7	5355351.5435	514760.05931294	sunny	5-17	134
SC1114	summerfallow	flat	loam	dry	86	27.7	5354566.6850	514764.09345873	sunny	5-17	134
SC1115	grass	flat	loam	dry	86	27.7	5353749.6666	515571.00355477	sunny	5-17	134
SC1116	summerfallow	flat	loam	dry	86	27.9	5352938.0509	514765.48482755	sunny	5-18	134
SC1117	summerfallow	flat	loam	dry	86	27.9	5352087.3414	514770.94503155	sunny	5-18	134
SC1118	summerfallow	flat	loam	dry	86	27.9	5351344.5183	514773.01893738	sunny	10-23	134
SCbase	grass	gentle	gravel	damp	68	28.2	5362609.5182	514749.57727070	sunny	5-16	235
SCbase2	grass	flat	loam	dry	75	27.7	5368656.4526	513921.46618907	sunny	n5-10	
							5369061.4129	518164.62345275			

APPENDIX 2

TABLE 1B: DOE AREA1 MAGNETIC DATA

DOESITENO	LATITUDE	LONGITUDE	LINE	SITENO ONLY	CORR MAGSUS	MAG	MAG RESIDUAL
SC37	5372236.7490	505111.27553342	235	37	1.12		
SC38	5372238.4915	505420.59608732	235	38	1.26		
SC39	5372229.0173	505732.68514767	235	39	1.75		
SC40	5372229.3147	506059.13088531	235	40	1.68		
SC41	5372229.5236	506386.25652133	235	42	1.58		
SC42	5372227.3755	506740.88983969	235	42	1.32		
SC43	5372228.0480	507048.69184593	235	43	1.47		
SC44.1	5372228.5707	507382.35967544	235	44	1.22		
SC44.2	5372229.8759	507692.52986214	235	44	1.35		
SC46	5372230.7979	508005.88372605	235	46	1.06		
SC47	5372231.6450	508341.48345993	235	47	1.20		
SC48	5372233.3189	508658.31444420	235	48	1.13		
SC49	5372233.9749	508988.11085633	235	49	1.00		
SC50	5371756.7429	509308.51291128	235	50	0.76		
SC51	5371404.0183	509888.37313614	235	51	0.87		
SC52	5370805.9179	509900.29391389	235	52	0.49		
SC53	5370626.0092	510134.93567653	235	53	0.09		
SC54	5370630.6927	510491.53353746	235	54	0.66		
SC55	5370634.8182	510816.06803926	235	55	1.08		
SC56	5370637.0023	511128.58854192	235	56	1.07		
SC57	5370638.1179	511424.14814321	235	57	0.92		
SC58	5370639.8669	511783.23110100	235	58	0.92		
SC59	5370639.6202	512092.10070436	235	59	1.20		
SC60	5370641.0645	512412.26466392	235	60	0.53		
SC61	5370643.1506	512727.92519780	235	61	0.53		
SC62	5370643.9797	513073.15240368	235	62	0.62		
SC63	5370644.6717	513390.82628956	235	63	0.61		
SC64	5370645.8294	513692.64943387	235	64	0.51		
SC65	5370646.9179	514002.04346912	235	65	1.24		
SC66	5370649.8985	514337.50300139	235	66	1.14		
SC67	5370650.9407	514644.65274382	235	67	0.73		
SC68	5370653.0204	514994.34608047	235	68	1.22		
SC69	5370655.1605	515300.22035331	235	69	0.85		
SC70	5370658.0064	515630.76620934	235	70	0.65		
SC71	5370659.2454	515955.42522081	235	71	0.71		
SC72	5370659.8885	516266.35296031	235	72	0.93		
SC73	5370662.3569	516599.83978557	235	73	1.18		
SC74	5370664.3575	516894.95868522	235	74	1.06		
SC75	5370665.5868	517274.05487295	235	75	1.41		
SC76	5370665.0962	517545.68557516	235	76	1.09		
SC77	5370665.8056	517888.08107804	235	77	1.53		
SC78	5370668.7243	518214.56417520	235	78	0.73		
SC79	5370670.8537	518514.73195706	235	79	1.38		
SC80	5370672.5043	518848.55525221	235	80	0.93		
SC81	5370674.1593	519205.52546199	235	81	0.60		
SC82	5370674.7841	519484.87730855	235	82	1.03		
SC82	5370675.0858	519484.15694712	235	82	1.06		
SC83	5370675.1155	519695.49788955	235	83	0.97		
SC84	5370676.4585	519952.03987875	235	84	1.01		
SC85	5370676.8553	520235.98196198	235	85	0.94		
SC86	5370678.0932	520517.69192623	235	86	1.03		
SC87	5370679.8883	520805.20933538	235	87	1.03		
SC88	5370680.1578	521097.60043019	235	88	0.91		
SC89	5370681.5830	521383.01428161	235	89	0.95		
SC90	5370682.2729	521584.71549748	235	90	0.98		
SC91	5370683.3816	521732.27308264	235	91	0.93		
SC92	5370683.3610	521915.41974602	235	92	0.94		
SC93	5370685.3191	522301.73061155	235	93	1.13		
SC94	5370684.8069	522660.40770356	235	94	1.04		
SC95	5370686.2579	522966.70843929	235	95	1.46		
SC96	5370687.4254	523286.95562977	235	96	1.67		
SC97	5370688.8580	523695.75211078	235	97	1.20		
SC98	5370691.7120	524247.12188632	235	98	1.15		
SC99	5370693.0407	524581.97333615	235	99	0.94		
SC100	5370693.9637	524874.37278611	235	100	1.51		
SC101	5370694.0104	525192.69452580	235	101	1.50		
SC102	5370696.0871	525536.30984033	235	102	1.35		

TABLE 1B: DOE AREA1 MAGNETIC DATA

DOESITENO	LATITUDE	LONGITUDE	LINE	SITENO ONLY	CORR MAGSUS	MAG	MAG RESIDUAL
SC103	5370697.1221	525910.86869929	235	103	1.78		
SC104	5370698.7778	526194.84151676	235	104	1.19		
SC105	5370700.8115	526515.96987859	235	105	0.78		
SC106	5370701.5577	526834.43667774	235	106	0.60		
SC107	5370702.9335	527134.79603781	235	107	1.19		
SC108	5370705.5157	527470.56530106	235	108	1.25		
SC109	5359431.7099	526783.30311124	242	109	1.63		
SC110	5359417.3112	526622.82458091	242	110	1.47		
SC111	5359416.3021	526337.22859403	242	111	0.93		
SC112	5359411.1300	526021.43599109	242	112	1.62		
SC113	5359425.1955	525680.01651960	242	113	1.70		
SC114	5359424.3297	525373.65653529	242	114	1.64		
SC115	5359422.7406	525036.64764180	242	115	1.39		
SC116	5359422.5394	524719.72461088	242	116	0.97		
SC117	5359424.5907	524399.58899457	242	117	1.24		
SC118	5359426.0296	524061.54132329	242	118	1.77		
SC119	5359424.6002	523743.47958966	242	119	1.49		
SC120	5359346.9257	523440.29435678	242	120	0.82		
SC121	5359412.2200	523196.99357662	242	121	1.24		
SC122	5359408.5212	522861.83196173	242	122	1.13		
SC123	5358615.9562	523025.72455571	242	123	1.29		
SC124	5358609.3471	522574.34433988	242	124	1.42		
SC125	5358609.4825	522242.53382843	242	125	1.50		
SC126	5358602.2043	521915.66755080	242	126	0.87		
SC127	5358604.2784	521592.50410268	242	127	0.86		
SC128	5358597.5545	521263.86621679	242	128	0.99		
SC129	5358616.9807	520857.12763688	242	129	0.99		
SC130	5358617.4114	520581.04685259	242	130	1.43		
SC131	5358616.3307	520294.97430250	242	131	1.49		
SC132	5358615.5505	520096.88683671	242	132	1.52		
SC133	5358613.9815	519818.15360385	242	133	1.67		
SC134	5358611.1007	519530.33806996	242	134	1.34		
SC135	5358608.7483	519241.92374467	242	135	1.78		
SC136	5358615.3556	518941.33318201	242	136	1.76		
SC137	5358607.3541	518620.15098205	242	137	1.93		
SC138	5358611.8483	518297.92237484	242	138	1.37		
SC139	5358604.2172	517948.95857520	242	139	1.96		
SC140	5358603.5027	517651.47886795	242	140	1.97		
SC141	5358600.7994	517321.43139337	242	141	1.57		
SC142	5358928.5008	517169.28549497	242	142	1.46		
SC143	5359392.5693	517172.46342898	242	143	1.65		
SC144	5359396.2549	516832.42112737	242	144	1.75		
SC145	5359396.7669	516509.59351867	242	145	1.27		
SC146	5359387.8333	516143.12055085	242	146	1.54		
SC147	5359255.1798	515546.43878680	242	147	1.53		
SC148	5359564.7235	515474.43447051	242	148	1.10		
SC149	5359511.1737	515186.96112073	242	149	1.19		
SC150	5359427.1677	514865.76581805	242	150	1.60		
SC151	5359396.1828	514383.28170163	242	151	1.52		
SC152	5359394.1663	514073.39974667	242	152	1.60		
SC153	5359384.4116	513760.05417117	242	153	1.44		
SC154	5359395.7530	513430.14439614	242	154	0.92		
SC155	5359383.8595	513132.01605349	242	155	1.27		
SC156	5359387.7630	512785.94659117	242	156	1.10		
SC157	5359387.5865	512465.96238444	242	157	1.29		
SC158	5359379.2466	512165.31231365	242	158	1.75		
SC159	5359383.8669	511841.25183609	242	159	0.98		
SC160	5359376.1585	511530.96745259	242	160	1.21		
SC161	5359375.3464	511184.29816784	242	161	1.36		
SC162	5359366.6508	510860.02607390	242	162	0.97		
SC163	5359373.4896	510555.30544858	242	163	1.55		
SC164	5359358.0236	510215.98270303	242	164	0.97		
SC165	5359378.7618	509906.77924474	242	165	1.48		
SC166	5359381.5026	509610.84838513	242	166	1.52		
SC167	5359378.2502	509251.77649295	242	167	1.54		
SC168	5359377.5905	508947.04006729	242	168	1.29		
SC169	5359375.8470	508631.58092312	242	169	1.64		

TABLE 1B: DOE AREA1 MAGNETIC DATA

DOESITENO	LATITUDE	LONGITUDE	LINE	SITENO ONLY	CORR MAGSUS	MAG	MAG RESIDUAL
SC170	5359375.6137	508304.13785702	242	170	1.43		
SC171	5359375.8915	508002.75680421	242	171	1.76		
SC171	5359376.3159	508006.09047497	242	171	1.75		
SC172	5359373.3972	507483.15829089	242	172	1.71		
SC173	5359373.7053	507176.64713354	242	173	1.57		
SC174	5359377.1119	506808.52022180	242	174	1.42		
SC175	5359367.3314	506547.97481449	242	175	1.15		
SC176	5359376.0362	506237.80061293	242	176	1.55		
SC177	5359375.5011	505909.52917777	242	177	1.05		
SC178	5359373.7346	505576.05997221	242	178	1.57		
SC179	5359366.8213	505226.83572093	242	179	1.81		
SC180	5359372.5861	504896.84858655	242	180	0.85		
SC181	5359371.4428	504591.89032919	242	181	1.17		
SC182	5359372.3515	504272.51072661	242	182	1.01		
SC183	5352929.3176	506728.26307938	140	183	1.33		
SC184	5353214.9168	506732.26856767	140	184	1.28		
SC185	5353552.9654	506732.22739161	140	185	1.40		
SC186	5353856.3379	506732.83227183	140	186	1.78		
SC187	5354197.8273	506731.53887648	140	187	1.42		
SC188	5354530.4230	506731.07034441	140	188	1.78		
SC189	5354841.2276	506729.72240276	140	189	1.33		
SC190	5355133.9060	506729.81332063	140	190	1.29		
SC191	5355445.3609	506730.18617902	140	191	1.29		
SC192	5355794.0519	506729.78756103	140	192	1.40		
SC193	5356115.3156	506729.41330126	140	193	1.28		
SC194	5356489.7218	506729.35134207	140	194	1.79		
SC195	5356760.7052	506729.16734130	140	195	1.68		
SC196	5357071.7179	506728.26731753	140	196	1.03		
SC197	5357410.6462	506728.09518403	140	197	1.47		
SC198	5357697.7362	506728.46092071	140	198	1.55		
SC199	5358051.4641	506727.63408110	140	199	1.47		
SC200	5358333.3191	506727.87292478	140	200	1.55		
SC201	5358682.5646	506728.60632326	140	201	1.74		
SC202	5358993.2417	506728.45965783	140	202	1.30		
SC203	5359310.8135	506724.32691198	140	203	1.21		
SC204	5357765.3820	505130.62127951	140	204	1.54		
SC205	5358029.5923	505120.82235284	140	205	1.22		
SC206	5358321.1825	505120.61692224	140	206	1.40		
SC207	5358694.1820	505121.42539042	140	207	1.55		
SC208	5358962.4408	505120.92045565	140	208	1.62		
SC209	5359322.6579	505119.96898493	140	209	1.43		
SC210	5359622.1127	505121.55174882	140	210	1.48		
SC211	5359942.7530	505120.18843691	140	211	1.20		
SC212	5360287.0167	505120.08261916	140	212	1.04		
SC213	5360900.8212	505118.86420770	140	213	1.36		
SC214	5361197.8785	505118.02748336	140	214	1.52		
SC215	5361577.2493	505117.61544485	140	215	1.56		
SC216	5361876.4644	505116.43775493	140	216	0.95		
SC217	5362170.0723	505116.25924030	140	217	1.42		
SC218	5362503.9614	505133.53467241	140	218	1.35		
SC219	5362800.6289	505201.42980024	140	219	1.48		
SC220	5363093.3039	505315.30019137	140	220	0.94		
SC221	5363409.4986	505443.31276874	140	221	1.46		
SC222	5363723.4082	505560.71482212	140	222	0.65		
SC223	5364042.5429	505548.16624509	140	223	1.09		
SC224	5364297.7361	505393.10556403	140	224	1.55		
SC225	5364558.1335	505210.70200319	140	225	1.14		
SC226	5364855.7176	505116.68931654	140	226	1.41		
SC227	5365187.2675	505112.30610236	140	227	1.76		
SC228	5365508.2509	505111.47578250	140	228	1.38		
SC229	5365813.8665	505112.47723720	140	229	1.25		
SC230	5366121.7245	505112.19120139	140	230	0.83		
SC231	5366449.9358	505111.96787709	140	231	1.16		
SC232	5366780.3760	505111.10757725	140	232	1.27		
SC233	5367106.5571	505110.22948304	140	233	1.55		
SC234	5367409.0360	505109.78461262	140	234	1.46		
SC235	5367717.1675	505110.16719280	140	235	1.37		

TABLE 1B: DOE AREA1 MAGNETIC DATA

DOESITENO	LATITUDE	LONGITUDE	LINE	SITENO ONLY	CORR MAGSUS	MAG	MAG RESIDUAL
SC236	5368046.0204	505110.23807660	140	236	1.43		
SC237	5368390.0675	505110.64815815	140	237	1.21		
SC238	5368687.8067	505110.49242927	140	238	1.25		
SC239n	5369360.7129	505110.13450228	140	239	0.92		
SC239s	5368997.4231	505110.83072434	140	239	0.94		
SC241	5369682.2944	505110.42710579	140	241	0.93		
SC242	5369818.4511	505488.59361549	140	242	0.85		
SC243	5369818.7447	505810.33817684	140	243	0.74		
SC244	5369819.2166	506089.86349937	140	244	1.34		
SC245	5369819.2071	506413.58516970	140	245	0.77		
SC246	5369847.5539	506710.03198887	140	246	1.01		
SC247	5370197.4321	506717.55915273	140	247	1.65		
SC248	5370502.5111	506717.69998356	140	248	1.17		
SC249	5370801.6669	506717.06521578	140	249	1.47		
SC250	5371131.9332	506717.17956003	140	250	1.39		
SC251	5371452.9482	506717.09307507	140	251	0.88		
SC252	5371796.4597	506716.01505879	140	252	1.32		
SC253	5372112.6759	506715.83760911	140	253	1.10		
SC254	5372403.8770	506715.64066729	140	254	1.39		
SC255	5372747.9981	506714.81496741	140	255	1.16		
SC256	5373042.6555	506715.47644993	140	256	1.74		
SC257	5373376.0636	506714.67575623	140	257	1.45		
SC258	5373702.3866	506713.67663012	140	258	1.44		
SC259	5374021.1204	506713.72000513	140	259	1.16		
SC260	5374349.7145	506713.18105221	140	260	1.37		
SC261	5374733.0169	506713.15320721	140	261	0.81		
SC262	5374975.1632	506713.36405115	140	262	0.86		
SC263	5375295.4570	506712.91120663	140	263	1.17		
SC264	5375634.6264	506712.84781745	140	264	1.10		
SC265	5375979.7447	506712.43917887	140	265	1.44		
SC266	5376262.7179	506712.16956394	140	266	1.13		
SC267	5376576.3010	506711.71145017	140	267	1.89		
SC268	5376887.3930	506711.11635954	140	268	1.71		
SC269	5377230.8008	506710.69763577	140	269	1.53		
SC270n	5377867.3118	506711.19699900	140	270	1.76		
SC270s	5377546.3043	506711.17538910	140	270	1.88		
SC271	5378175.0351	506710.38682750	140	271	1.75		
SC272	5378519.0404	506710.58133232	140	272	1.53		
SC277	5352546.7878	501905.92213411	143	277	1.81		
SC278	5352883.7109	501905.43520428	143	278	1.90		
SC279	5353206.2465	501907.07608264	143	279	1.66		
SC280	5353547.2621	501906.42188567	143	280	1.85		
SC281	5353845.8858	501906.24986185	143	281	1.44		
SC282	5354206.2412	501905.34038403	143	282	1.25		
SC283	5354522.0169	501905.01881001	143	283	1.20		
SC284	5354865.8876	501904.38930361	143	284	1.26		
SC285	5355209.9102	501904.21616132	143	285	1.46		
SC286	5355499.8279	501904.29100932	143	286	1.63		
SC287	5355820.9890	501904.16187105	143	287	1.53		
SC288	5356135.3548	501903.23040689	143	288	1.16		
SC289	5356452.6017	501898.71369932	143	289	1.41		
SC290	5356790.4720	501903.02496242	143	290	1.73		
SC291	5357113.4159	501900.18815638	143	291	1.55		
SC292	5357438.5674	501898.10273421	143	292	1.03		
SC293	5357771.5387	501901.01480900	143	293	0.64		
SC294	5358097.9200	501904.33893714	143	294	0.82		
SC295	5358426.8160	501902.27627879	143	295	0.93		
SC296	5358716.8118	501922.23392938	143	296	1.09		
SC297	5359042.2758	501916.55528513	143	297	1.18		
SC298	5359309.3952	501946.75271092	143	298	1.04		
SC299	5359610.5359	501821.39790997	143	299	1.16		
SC300	5359908.6921	501892.62636731	143	300	1.10		
SC301	5360224.0921	501900.11910935	143	301	1.53		
SC302	5360580.0162	501900.53426771	143	302	2.00		
SC303	5360879.8551	501900.47209928	143	303	1.52		
SC304	5361375.9170	502076.20289468	143	304	1.24		
SC305	5361680.8596	502014.43780399	143	305	1.19		

TABLE 1B: DOE AREA1 MAGNETIC DATA

DOESITENO	LATITUDE	LONGITUDE	LINE	SITENO ONLY	CORR MAGSUS	MAG	MAG RESIDUAL
SC306	5362019.1501	501993.00625425	143	306	1.33		
SC307	5362325.9230	501994.40744998	143	307	2.17		
SC308	5362832.9591	501834.75518723	143	308	1.63		
SC309	5363120.9543	501834.20210176	143	309	1.30		
SC310	5363456.9981	501833.08028865	143	310	1.83		
SC311	5363792.3095	501831.50883387	143	311	1.46		
SC312	5364126.3781	501828.80291580	143	312	1.30		
SC313	5364474.4626	501900.34674804	143	313	0.96		
SC314	5364755.3626	501883.79283633	143	314	1.06		
SC315	5364994.0340	501899.40506421	143	315	0.70		
SC316	5365172.6542	501863.27418206	143	316	1.23		
SC317	5365478.7027	501895.99806798	143	317	0.75		
SC318	5365622.1594	501890.67297299	143	318	0.83		
SC319	5365814.9464	501894.67309998	143	319	0.96		
SC320	5366119.2368	501900.86520510	143	320	1.13		
SC321	5366454.1911	501891.57361317	143	321	0.45		
SC322	5366748.9516	501906.22577048	143	322	1.38		
SC323	5367070.0364	501893.41414452	143	323	1.42		
SC324	5367398.7366	501892.42351122	143	324	1.14		
SC325	5367702.3466	501892.41472788	143	325	1.60		
SC326	5368028.2005	501892.92355218	143	326	0.82		
SC327	5368366.4376	501893.44835155	143	327	1.07		
SC328	5368707.8020	501893.54336548	143	328	1.21		
SC329	5368997.2581	501903.90571155	143	329	0.79		
SC330	5369016.9357	502975.02259154	143	330	1.28		
SC331	5369028.8953	503943.10491508	143	331	1.68		
SC332	5369249.2244	503859.41072872	143	332	1.97		
SC333	5369375.2064	503611.10114207	143	333	1.92		
SC334	5369644.1099	503500.62812582	143	334	1.19		
SC335	5369997.4541	503499.68117341	143	335	0.96		
SC336	5370298.6559	503499.85903930	143	336	1.73		
SC337	5370610.2763	503500.32978297	143	337	2.27		
SC338	5370942.9516	503498.66048443	143	338	0.90		
SC339	5371295.4370	503498.60604064	143	339	1.27		
SC340	5371585.2223	503497.36256742	143	340	1.15		
SC341	5371923.5314	503495.71993645	143	341	0.73		
SC342	5372239.9197	503495.65448615	143	342	0.91		
SC343	5372553.0766	503494.76901611	143	343	1.00		
SC344	5372879.0185	503493.80934947	143	344	0.98		
SC345	5373202.1146	503492.31815791	143	345	1.02		
SC346	5373529.2030	503491.22596395	143	346	1.59		
SC347	5373883.6552	503489.44690772	143	347	1.38		
SC348	5374190.4757	503489.19041047	143	348	1.38		
SC349	5374519.3453	503490.31761864	143	349	1.54		
SC350	5374845.7871	503490.40216114	143	350	1.55		
SC351	5375325.3900	503489.75444290	143	351	1.97		
SC352	5375635.2812	503495.17216036	143	352	1.31		
SC353	5360978.6277	498708.84108868	241	353	0.93		
SC354	5360977.6517	498975.37388635	241	354	0.93		
SC355	5360977.8192	499282.78577344	241	355	1.02		
SC356	5360978.3501	499606.18305514	241	356	1.23		
SC357	5360977.1544	499916.56445916	241	357	1.38		
SC358	5360976.2673	500245.72257423	241	358	1.56		
SC359	5360975.7589	500570.18740585	241	359	1.51		
SC360	5360975.0532	500903.09707114	241	360	1.46		
SC361	5360975.5651	501221.50308320	241	361	1.53		
SC362	5360976.5392	501537.05102297	241	362	1.54		
SC363	5360976.0943	501851.28369779	241	363	1.82		
SC364	5360976.6714	502168.81189945	241	364	1.48		
SC365	5360976.5782	502489.15964443	241	365	1.11		
SC366	5360975.3871	502853.27682972	241	366	1.50		
SC367	5360976.4994	503134.30897999	241	367	1.39		
SC368	5360977.7596	503503.82697634	241	368	1.20		
SC369	5360977.5795	503787.59566456	241	369	1.04		
SC370	5360977.5590	504138.29032484	241	370	1.15		
SC371	5360979.0660	504449.31647985	241	371	0.58		
SC372	5360978.3811	504752.58696871	241	372	1.51		

TABLE 1B: DOE AREA1 MAGNETIC DATA

DOESITENO	LATITUDE	LONGITUDE	LINE	SITENO ONLY	CORR MAGSUS	MAG	MAG RESIDUAL
SC373	5360979.0110	505067.54874420	241	373	1.30		
SC374	5360981.8615	505400.11008925	241	374	1.49		
SC375	5360980.6271	505720.66995618	241	375	1.52		
SC376	5360986.7225	506061.23789056	241	376	1.62		
SC377	5360986.9632	506374.98726540	241	377	1.48		
SC378	5360989.3989	506664.59261994	241	378	1.74		
SC379	5360982.1144	507038.31518291	241	379	1.98		
SC380	5360980.5497	507362.50032405	241	380	1.10		
SC381	5360983.0310	507660.99109684	241	381	1.46		
SC382	5360983.6350	507995.71013161	241	382	1.45		
SC383	5360982.7409	508320.41005454	241	383	1.45		
SC384	5360987.2717	508633.83900659	241	384	1.70		
SC385	5360980.7272	508940.63490455	241	385	2.20		
SC386	5360991.8396	509208.89970474	241	386	1.68		
SC387	5360992.4015	509523.77878054	241	387	2.28		
SC388	5360994.5044	509846.69792071	241	388	2.69		
SC389	5360992.5744	510281.96017107	241	389	1.41		
SC390	5361004.1705	510771.20769024	241	390	2.08		
SC391	5361010.3326	511262.11404048	241	391	1.44		
SC392	5361011.5237	511740.03080991	241	392	1.97		
SC393	5361021.7859	512044.54401430	241	393	1.60		
SC394	5360997.9821	512341.14496457	241	394	1.44		
SC395	5360998.8066	512672.96867581	241	395	0.94		
SC396	5361003.6455	513004.84244072	241	396	0.82		
SC397	5361484.8586	513128.47700206	241	397	0.95		
SC398	5361971.6294	513126.29804891	241	398	0.55		
SC399	5361896.9507	513320.55017196	241	399	0.68		
SC400	5361898.8120	513630.57763188	241	400	0.97		
SC401	5361830.8396	513903.89574876	241	401	1.22		
SC402	5361810.1387	514202.27148747	241	402	1.67		
SC403	5361974.1377	514508.93595247	241	403	1.25		
SC404	5361935.8886	514815.86869339	241	404	1.45		
SC405	5361868.4102	515229.30214347	241	405	1.39		
SC406	5361900.4863	515601.00380857	241	406	0.65		
SC407	5361931.8772	515853.70361485	241	407	0.67		
SC408	5361719.1647	516108.02142335	241	408	0.60		
SC409	5361444.8437	516266.73638032	241	409	1.16		
SC410	5361275.9036	516520.79512710	241	410	0.56		
SC411	5361179.6160	516818.30741642	241	411	0.44		
SC412	5361038.3532	517103.20753345	241	412	0.68		
SC413	5361115.3435	517380.40117659	241	413	0.82		
SC414	5361183.9625	517706.31094671	241	414	0.98		
SC415	5361040.0017	517959.60313568	241	415	2.08		
SC416	5361007.7511	518276.09093317	241	416	1.60		
SC417	5361008.1033	518601.87106217	241	417	1.81		
SC418	5361009.6264	518920.58419873	241	418	1.45		
SC419	5361010.6616	519247.90061371	241	419	1.52		
SC420	5360990.9908	519546.34189592	241	420	1.59		
SC421	5360664.1894	519546.32516194	241	421	1.58		
SC422	5360346.9348	519547.55704383	241	422	1.79		
SC423	5360210.2259	519925.67675110	241	423	1.57		
SC424	5360209.1377	520237.88364057	241	424	1.68		
SC425	5360213.8599	520564.60140214	241	425	1.37		
SC426	5360217.8605	520875.41724767	241	426	1.29		
SC427	5360225.5261	521145.78417680	241	427	1.34		
SC428	5360043.1531	521178.34473356	241	428	1.34		
SC429	5360161.4920	521757.64598733	241	429	1.32		
SC430	5360210.7549	522159.40078433	241	430	1.34		
SC431	5360214.2027	522457.85559926	241	431	1.55		
SC432	5360160.2440	522758.38520178	241	432	1.41		
SC433	5359816.0368	522761.10755553	241	433	1.09		
SC434	5359416.4361	522763.90218593	241	434	1.39		
SC435	5356186.3798	516390.56626412	244	435	1.04		
SC436	5356184.0800	516119.86790047	244	436	1.00		
SC437	5356183.6784	515840.21332155	244	437	1.64		
SC438	5356183.1130	515511.97119631	244	438	1.24		
SC439	5356182.2961	515184.34248497	244	439	1.63		

TABLE 1B: DOE AREA1 MAGNETIC DATA

DOESITENO	LATITUDE	LONGITUDE	LINE	SITENO ONLY	CORR MAGSUS	MAG	MAG RESIDUAL
SC440	5356181.5162	514832.14400950	244	440	1.39		
SC441	5356180.3474	514487.62363427	244	441	2.03		
SC442	5356179.1362	514239.29222186	244	442	1.47		
SC443	5356177.1295	513896.54171006	244	443	1.46		
SC444	5356174.7025	513554.16760313	244	444	1.48		
SC445	5356172.8660	513255.49746119	244	445	1.47		
SC446	5356170.8193	512916.83276789	244	446	1.28		
SC447	5356168.5609	512579.90166724	244	447	1.41		
SC448	5356166.9127	512261.77583796	244	448	1.87		
SC449	5356165.1968	511950.24310210	244	449	1.39		
SC450	5356163.1520	511627.19094018	244	450	1.36		
SC451	5356160.9326	511290.79285828	244	451	1.01		
SC452	5356158.7367	510913.03597014	244	452	1.34		
SC453	5356157.1510	510647.10433493	244	453	1.11		
SC454	5356155.3703	510346.19493603	244	454	1.32		
SC455	5356155.1646	509975.47777594	244	455	1.41		
SC456	5356155.2330	509686.83856968	244	456	1.64		
SC457	5356155.6653	509374.26724251	244	457	1.75		
SC458	5356155.3262	509060.27530972	244	458	1.11		
SC459	5356155.1701	508739.40068908	244	459	1.44		
SC460	5356154.7647	508415.57593819	244	460	1.48		
SC461	5356155.5129	508048.09949005	244	461	1.11		
SC462	5356164.1244	507757.88814666	244	462	1.37		
SC463	5356154.7598	507437.36866083	244	463	1.34		
SC464	5356154.2461	507112.34329362	244	464	1.55		
SC465	5356153.8655	506797.97571310	244	465	1.23		
SC466	5356153.8583	506421.85949631	244	466	1.35		
SC467	5356153.5172	506143.65418385	244	467	1.26		
SC468	5356153.8854	505815.12876365	244	468	1.72		
SC469	5356152.9050	505458.20524474	244	469	1.56		
SC470	5356154.1192	505150.16720692	244	470	1.38		
SC471	5357763.4622	505104.10122185	243	471	1.77		
SC472	5357763.3206	504844.13167285	243	472	1.78		
SC473	5357764.3688	504518.79412749	244	473	1.17		
SC474	5357763.1188	504193.86989688	243	474	1.40		
SC475	5357763.5880	503869.38992131	243	475	1.53		
SC476	5357764.3807	503509.90134394	243	476	1.58		
SC477	5357763.6083	503227.79935283	243	477	1.70		
SC478	5357764.9857	502900.75013473	243	478	1.61		
SC479	5357764.0681	502575.73619044	243	479	1.36		
SC480	5357765.3846	502246.27285456	243	480	1.40		
SC481	5357767.4577	501909.46850718	243	481	1.33		
SC482	5357747.6356	511528.58662791	137	482	1.07		
SC483	5357323.9535	511527.72253431	137	483	1.32		
SC484	5356954.1678	511530.40979203	137	484	1.32		
SC485	5356665.9763	511529.09229055	137	485	1.70		
SC486	5356348.0295	511529.99505955	137	486	1.42		
SC487	5356004.1812	511532.60862682	137	487	1.43		
SC488	5355690.3395	511533.29314581	137	488	1.85		
SC489	5355388.8088	511534.40107378	137	489	2.16		
SC490	5355022.0463	511536.56319364	137	490	1.55		
SC491	5354649.0005	511537.29092021	137	491	1.54		
SC492	5354203.4675	511538.29213568	137	492	1.54		
SC492	5353559.4905	511540.02932182	137	493	1.54		
SC493	5353892.3921	511539.56809151	137	494	1.08		
SC495	5353232.5085	511540.84774125	137	495	1.44		
SC496	5352884.9639	511542.61878529	137	496	1.63		
SC497	5352545.7843	511544.08939602	137	497	1.60		
SC498	5352256.7484	511544.81941188	137	498	1.58		
SC499	5351922.8848	511545.80413835	137	499	1.53		
SC500	5351558.1315	511546.35910871	137	500	1.46		
SC501	5351253.9547	511546.72076582	137	501	1.98		
SC502	5351326.9361	509937.61985296	247	502	1.83		
SC503	5351327.9274	510233.08649901	247	503	2.32		
SC504	5351328.9888	510554.35540553	247	504	1.78		
SC505	5351328.8239	510889.56657689	247	505	2.14		
SC506	5351330.5299	511224.13948634	247	506	1.79		

TABLE 1B: DOE AREA1 MAGNETIC DATA

DOESITENO	LATITUDE	LONGITUDE	LINE	SITENO ONLY	CORR MAGSUS	MAG	MAG RESIDUAL
SC507	5351330.2572	511568.05209336	247	507	2.02		
SC508	5351329.0394	511840.85274055	247	508	1.59		
SC509	5351329.0960	512173.83847967	247	509	1.59		
SC510	5351330.5446	512504.04633528	247	510	1.48		
SC511	5351326.2719	512827.04990742	247	511	1.41		
SC512	5351334.0800	513102.59154184	247	512	1.44		
SC513	5351337.8895	513427.56396178	247	513	1.93		
SC514	5351330.9799	513737.76806910	247	514	1.60		
SC515	5351334.2345	513947.00886577	247	515	1.64		
SC516	5351323.7132	514252.05066296	247	516	1.71		
SC517	5351343.4556	514589.65116648	247	517	1.57		
SC518	5351345.2458	514927.27459374	247	518	1.68		
SC519	5351346.1148	515234.07510494	247	519	1.48		
SC520	5351344.1745	515566.71616755	247	520	1.36		
SC521	5351345.2272	515876.80112521	247	521	2.18		
SC522	5351347.0112	516235.39405215	247	522	2.04		
SC523	5351351.5725	516542.91840993	247	523	1.37		
SC524	5351351.8467	516858.09914631	247	524	1.50		
SC525	5351349.0783	517171.46545576	247	525	1.71		
SC526	5351350.2109	517498.02199363	247	526	2.06		
SC527	5351353.8666	517827.65091862	247	527	1.78		
SC528	5351358.0903	518146.05896674	247	528	1.32		
SC529	5359470.2538	523593.42553191	130	529	1.44		
SC530	5359844.5734	523575.05469632	130	530	1.45		
SC531	5360216.4545	523575.73073742	130	531	1.32		
SC532	5360488.3417	523576.98113152	130	532	1.23		
SC533	5360801.5773	523573.22413784	130	533	1.21		
SC534	5361028.7038	523565.37244759	130	534	1.19		
SC535	5361062.0685	522762.58752075	130	535	1.54		
SC536	5361328.9317	522761.20212308	130	536	1.59		
SC537	5361619.7900	522759.30771007	130	537	1.59		
SC538	5361950.9967	522757.60769343	130	538	1.34		
SC539	5362298.9192	522755.68556382	130	539	1.46		
SC540	5362580.3240	522754.43620367	130	540	1.50		
SC541	5362886.5288	522755.91303777	130	541	1.51		
SC542	5363209.9627	522754.47295998	130	542	0.84		
SC543	5363536.5522	522754.10674052	130	543	1.40		
SC544	5364069.2076	522751.82514263	130	544	1.43		
SC545	5364376.1217	522745.47896286	130	545	1.45		
SC546	5364588.6692	522742.84728847	130	546	1.30		
SC547	5364827.4244	522742.87415033	130	547	1.59		
SC548	5365160.6863	522742.61010623	130	548	1.08		
SC549	5365487.4816	522743.40674839	130	549	1.10		
SC550	5365855.0089	522739.40785287	130	550	1.52		
SC551	5366124.4577	522737.24730802	130	551	1.40		
SC552	5366433.6973	522735.55631294	130	552	1.41		
SC553	5366762.4484	522737.65928815	130	553	1.46		
SC554	5367070.4681	522722.71044117	130	554	1.51		
SC555	5367457.0110	522729.17519183	130	555	1.68		
SC556	5367450.0759	517970.85702270	237	556	0.79		
SC557	5367453.5639	518229.18421707	237	557	0.81		
SC558	5367454.3893	518550.80335120	237	558	1.09		
SC559	5367468.3088	518892.04145593	237	559	1.58		
SC560	5367472.8737	519200.70345960	237	560	1.38		
SC561	5367471.4629	519591.34438920	237	561	1.55		
SC562	5367471.9243	519870.38395931	237	562	1.41		
SC563	5367473.8171	520200.66281132	237	563	1.59		
SC564	5367472.1319	520524.83421248	237	564	1.47		
SC565	5367478.0438	520848.14761357	237	565	1.54		
SC566	5367463.2588	521158.26555481	237	566	1.30		
SC567	5367462.8433	521424.58836977	237	567	1.24		
SC568	5367465.5400	521754.09977084	237	568	1.31		
SC569	5367469.0680	522098.31715717	237	569	1.53		
SC570	5367463.8432	522425.33203541	237	570	1.22		
SC571	5367469.2189	523090.72199980	237	571	2.08		
SC572	5367469.0973	523403.34225701	237	572	1.46		
SC573	5367472.7142	523721.47675669	237	573	1.67		

TABLE 1B: DOE AREA1 MAGNETIC DATA

DOESITENO	LATITUDE	LONGITUDE	LINE	SITENO ONLY	CORR MAGSUS	MAG	MAG RESIDUAL
SC574	5367471.3045	524070.35990278	237	574	1.47		
SC575	5367470.8673	524402.14027829	237	575	1.04		
SC576	5367473.1920	524707.59761805	237	576	0.98		
SC577	5367478.4443	525038.28020369	237	577	0.82		
SC578	5367479.0087	525373.45690788	237	578	1.24		
SC579	5367479.4937	525695.89716602	237	579	0.83		
SC580	5367475.5631	525957.16998335	237	580	1.17		
SC581	5365870.6097	525957.14111350	238	581	1.19		
SC582	5365871.3454	525691.91821676	238	582	1.30		
SC583	5365868.7188	525423.30026720	238	583	1.21		
SC584	5365865.3156	525097.39123181	238	584	0.96		
SC585	5365863.4115	524796.91854109	238	585	0.84		
SC586	5365861.9924	524467.87056999	238	586	0.93		
SC587	5365862.9424	524153.07703292	238	587	1.26		
SC588	5365858.6644	523826.54926958	238	588	1.34		
SC589	5365858.6776	523517.57584558	238	589	1.15		
SC590	5365857.1805	523178.53825108	238	590	1.24		
SC591	5365858.7303	522860.00969301	238	591	1.23		
SC592	5365855.0181	522546.62137676	238	592	1.69		
SC593	5365854.4194	522196.26610597	238	593	1.73		
SC594	5365855.2355	521824.44194374	238	594	1.83		
SC595	5365854.0490	521537.95329650	238	595	1.56		
SC596	5365855.6192	521245.56720482	238	596	1.58		
SC597	5365850.9741	520912.44115564	238	597	1.57		
SC598	5365847.2229	520593.27134537	238	598	1.53		
SC599	5365846.7836	520284.86733420	238	599	1.55		
SC600	5365847.6444	519983.54481129	238	600	1.65		
SC601	5365861.9270	519635.95896726	238	601	1.21		
SC602	5365842.2223	519312.13803230	238	602	1.44		
SC603	5365845.3760	519023.17582205	238	603	1.47		
SC604	5365859.2153	518692.32902698	238	604	1.44		
SC605	5365981.1721	518386.02333343	238	605	1.45		
SC606	5365925.7278	517958.96157509	238	606	1.40		
SC607	5365844.5825	517508.21774227	238	607	1.39		
SC608	5365976.1305	517149.89950272	238	608	0.82		
SC609	5366279.9933	517144.24602808	238	609	0.87		
SC610	5366612.4951	517154.12714067	238	610	1.16		
SC611	5366660.1220	516848.16118451	238	611	1.41		
SC612	5366840.9121	516585.79774865	238	612	0.91		
SC613	5367038.8272	516355.78707977	238	613	1.31		
SC614	5367436.8632	516342.52290317	238	614	1.47		
SC615	5362630.3365	517501.57187038	239	615	1.02		
SC616	5362922.1104	517451.96936823	239	616	0.85		
SC617	5363228.9494	517424.48832310	239	617	1.37		
SC618	5363544.9050	517396.39491567	239	618	0.96		
SC619	5363873.9252	517397.61666861	239	619	1.12		
SC620	5364021.7228	517214.03079819	239	620	1.25		
SC621	5364025.7309	516930.52125526	239	621	1.47		
SC622	5364024.2679	516598.08097928	239	622	0.84		
SC623	5363967.3738	516185.51788035	239	623	0.93		
SC624	5364064.5439	516010.40992132	239	624	1.62		
SC625	5364217.8359	515792.01653608	239	625	0.84		
SC626	5364370.0719	515613.40944523	239	626	1.05		
SC627	5364676.4194	515556.29700292	239	627	1.22		
SC628	5364872.3427	515309.73895395	239	628	0.71		
SC629	5365014.5992	514929.75050042	239	629	0.97		
SC630	5365036.7258	514619.08948060	239	630	1.66		
SC631	5365039.8666	514293.95986955	239	631	0.80		
SC632	5365030.4507	514042.56542699	239	632	1.22		
SC633	5365087.2141	513674.55417484	239	633	1.41		
SC634	5365153.3562	513430.85194849	239	634	2.05		
SC635	5365112.2986	513123.99296790	239	635	1.08		
SC636	5365417.9655	513116.91413041	239	636	2.47		
SC637	5365763.8157	513114.42970771	239	637	1.54		
SC638	5365812.5244	512821.39180186	239	638	1.59		
SC639	5365816.9820	512529.13667649	239	639	1.50		
SC640	5365816.5571	512092.93900226	239	640	1.83		

TABLE 1B: DOE AREA1 MAGNETIC DATA

DOESITENO	LATITUDE	LONGITUDE	LINE	SITENO ONLY	CORR MAGSUS	MAG	MAG RESIDUAL
SC641	5365804.0784	511600.11143692	239	641	1.13		
SC642	5365810.5670	511104.75976348	239	642	0.76		
SC643	5365814.6371	510808.80980608	239	643	1.38		
SC644	5365813.6846	510484.23800916	239	644	1.27		
SC645	5365812.9248	510181.31125633	239	645	0.74		
SC646	5365811.5444	509852.36513356	239	646	0.62		
SC647	5365810.3482	509546.58913659	239	647	1.24		
SC648	5365805.8052	509197.06506748	239	648	1.41		
SC649	5365802.0884	508846.19269345	239	649	2.12		
SC650	5365800.3042	508552.49363888	239	650	1.22		
SC651	5365801.0734	508333.77727499	239	651	1.49		
SC652	5365492.2723	507965.31073153	139	652	1.05		
SC653	5366138.6528	508417.76725453	139	653	0.95		
SC654	5366443.8370	508634.14913374	139	654	1.18		
SC655	5366741.9976	508664.62697108	139	655	0.66		
SC656	5367032.6139	508820.79142686	139	656	0.24		
SC657	5367396.7995	508738.64053817	139	657	0.27		
SC658	5367600.6631	508513.01129488	139	658	0.39		
SC659	5367907.7452	508462.01246570	139	659	0.36		
SC660	5368209.2866	508570.61192275	139	660	0.26		
SC661	5368455.0476	508705.41297991	139	661	1.39		
SC662	5368796.4525	508744.28625126	139	662	0.59		
SC663	5369076.4988	508648.18199798	139	663	1.10		
SC664	5369359.7622	508457.36846869	139	664	0.38		
SC665	5369657.7634	508376.95938093	139	665	0.83		
SC666	5369954.5671	508371.31850146	139	666	1.54		
SC667	5370211.6078	508435.99089886	139	667	2.03		
SC668	5370375.9866	508676.55256551	139	668	1.68		
SC669	5370631.8869	508801.09360090	139	669	0.88		
SC670	5370826.5016	509048.15831874	139	670	0.74		
SC671	5371097.7601	509167.16199100	139	671	0.72		
SC672	5371354.0639	509228.38021948	139	672	1.22		
SC673	5371646.6503	509246.81915714	139	673	1.07		
SC674	5370291.6166	510745.78785340	138	674	1.25		
SC675	5369974.6234	510812.51332545	138	675	1.21		
SC676	5369668.0077	510830.68780400	138	676	0.83		
SC677	5369338.7285	510783.82157728	138	677	1.53		
SC678	5368821.5964	510559.03829796	138	678	0.62		
SC679	5368641.7723	510286.68183916	138	679	0.52		
SC680	5368413.9075	510072.74346350	138	680	0.37		
SC681	5368231.1727	509851.37188172	138	681	1.24		
SC682	5367991.4680	509601.32138569	138	682	1.24		
SC683	5367744.9617	509378.03283630	138	683	1.53		
SC684	5367392.9154	509181.98776363	138	684	1.25		
SC685	5367195.9779	509493.01092443	137	685	1.28		
SC686	5367143.8177	509791.48360020	137	686	1.21		
SC687	5367058.7033	510093.17076746	137	687	0.79		
SC688	5367023.6281	510435.66990736	137	688	1.25		
SC689	5367151.3256	510684.90030944	137	689	1.45		
SC690	5367291.2708	511019.96060580	137	690	0.50		
SC691	5367430.1180	511259.84109334	137	691	0.62		
SC692	5367430.1076	511485.46541284	137	692	0.91		
SC693	5367721.2122	511511.76171085	137	693	1.00		
SC694	5368050.6292	511509.63572200	137	694	0.94		
SC695	5368438.9155	511505.28983141	137	695	0.76		
SC696	5368721.5079	511504.03844146	137	696	0.62		
SC697	5369031.3406	511475.50145901	137	697	1.01		
SC698	5369337.3647	511506.61738807	137	698	0.97		
SC699	5369664.5002	511601.75770511	137	699	1.69		
SC700	5369893.2927	511779.60164003	137	700	1.24		
SC701	5370159.7062	511899.08130414	137	701	0.63		
SC702	5375445.2772	500280.06389407	230	702	1.12		
SC703	5375438.6473	500704.35404880	230	703	1.63		
SC704	5375441.3916	500993.01230129	230	704	1.58		
SC705	5375444.2339	501342.64853737	230	705	1.32		
SC706	5375444.6609	501662.16457753	230	706	1.38		
SC707	5375450.3914	501980.06021614	230	707	1.48		

TABLE 1B: DOE AREA1 MAGNETIC DATA

DOESITENO	LATITUDE	LONGITUDE	LINE	SITENO ONLY	CORR MAGSUS	MAG	MAG RESIDUAL
SC708	5375451.2365	502290.71549273	230	708	1.63		
SC709	5375453.3536	502592.49732878	230	709	1.53		
SC710	5375452.5063	502920.51820385	230	710	1.56		
SC711	5375452.3316	503264.69935827	230	711	2.18		
SC712	5375322.1742	503488.72712525	230	712	2.53		
SC713	5375127.9885	503614.54701912	230	713	2.62		
SC714	5375064.6335	503901.20269521	230	714	2.81		
SC715	5375079.2243	504246.61089904	230	715	2.11		
SC716	5375122.4619	504537.41633154	230	716	1.35		
SC717	5375282.7645	504824.61217443	230	717	1.48		
SC718	5375451.2179	505130.56275629	230	718	1.44		
SC719	5375448.8156	505414.50284970	230	719	1.35		
SC720	5375449.7577	505779.99868296	230	720	1.42		
SC721	5375447.8629	506043.48369580	230	721	1.28		
SC722	5375448.2794	506369.82269566	230	722	1.42		
SC723	5375448.4819	506749.08204876	230	723	1.31		
SC724	5375449.3587	507130.76560331	230	724	1.69		
SC725	5375449.6544	507433.60047554	230	725	1.81		
SC726	5375448.4687	507745.91152810	230	726	1.37		
SC727	5375448.4859	508086.70687007	230	727	2.16		
SC728	5375450.9274	508414.32413064	230	728	1.60		
SC729	5375454.0741	508714.96787987	230	729	1.75		
SC730	5375453.0976	509027.07487196	230	730	1.39		
SC731	5375452.6055	509374.46090062	230	731	1.47		
SC732	5375452.4393	509703.36942966	230	732	1.47		
SC733	5375454.8488	510049.12271427	230	733	1.50		
SC734	5375268.7789	510385.80807129	230	734	1.26		
SC735	5375062.7442	510564.45673583	230	735	1.43		
SC736	5374944.0194	510788.10305681	230	736	1.13		
SC737	5374884.8154	511092.31270288	230	737	1.65		
SC738	5374658.0767	511369.23738957	230	738	0.91		
SC739	5374585.4760	511595.54630760	230	739	1.08		
SC740	5370989.6589	511949.85413179	137	740	1.45		
SC741	5371271.7513	511802.68851989	137	741	1.32		
SC742	5371509.2913	511621.01505577	137	742	1.31		
SC743	5371746.3530	511506.69034887	137	743	1.57		
SC744	5372087.2061	511506.11657092	137	744	1.51		
SC745	5372393.7571	511554.01525778	137	745	1.45		
SC746	5372705.2381	511507.09216327	137	746	1.02		
SC747	5373018.0365	511504.65649995	137	747	1.04		
SC748	5373357.7977	511505.14036939	137	748	0.88		
SC749	5373662.3821	511518.86420675	137	749	0.95		
SC750	5373950.6231	511608.17631956	137	750	1.07		
SC751	5374220.6157	511667.59559504	137	751	0.93		
SC752	5374498.7107	512022.75079605	230	752	1.07		
SC753	5374733.9561	512254.30159982	230	753	0.53		
SC754	5374882.6399	513381.49702672	230	754	1.28		
SC755	5375033.1669	513611.75278495	230	755	1.27		
SC756	5375192.6025	513854.54117121	230	756	1.31		
SC757	5375395.1058	514120.23437982	230	757	1.07		
SC758	5375473.5498	514388.25966005	230	758	1.18		
SC759	5375474.7131	514690.96051243	230	759	1.12		
SC760	5375319.7183	514993.78195362	230	760	1.35		
SC761	5375184.0000	515297.88219898	230	761	1.30		
SC762	5374999.8956	515635.39735786	230	762	0.72		
SC763	5375477.8362	516673.87037454	230	763	0.76		
SC764	5379244.7115	514876.37242751	228	764	0.91		
SC765	5378954.5978	514643.36144618	228	765	0.32		
SC766	5378673.2102	514352.16827621	228	766	1.09		
SC767	5378369.3546	514622.95717977	228	767	1.15		
SC768	5378301.9568	514936.51739375	228	768	2.01		
SC769	5378254.7310	515237.31970963	228	769	0.48		
SC770	5378201.8609	515521.81222552	228	770	0.23		
SC771	5378285.5649	515825.55089463	228	771	0.89		
SC772	5378289.4524	516157.63067797	228	772	1.24		
SC773	5378429.0835	516473.46046886	228	773	1.44		
SC774	5378702.0419	516556.17447547	228	774	1.29		

TABLE 1B: DOE AREA1 MAGNETIC DATA

DOESITENO	LATITUDE	LONGITUDE	LINE	SITENO ONLY	CORR MAGSUS	MAG	MAG RESIDUAL
SC775	5378702.0610	516863.36441369	228	775	1.35		
SC776	5378702.8889	517160.33263087	228	776	1.26		
SC777	5378703.5183	517501.72140057	228	777	1.05		
SC778	5378704.8565	517829.86798320	228	778	1.22		
SC779	5378780.3364	518109.40687621	228	779	1.32		
SC780	5378835.7971	518370.96878016	228	780	1.21		
SC781	5378838.4976	518692.63218324	228	781	1.04		
SC782	5378794.7376	519014.78867893	228	782	0.83		
SC783	5378708.0258	519271.24268064	228	783	0.82		
SC784	5378723.7915	519585.31792696	228	784	1.05		
SC785	5378733.1501	519714.07940334	228	785	1.03		
SC786	5370696.8836	519503.16782188	132	786	1.35		
SC787	5371059.3056	519501.65903049	132	787	1.53		
SC788	5371402.9148	519500.10711114	132	788	1.46		
SC789	5371727.4254	519497.90899790	132	789	0.33		
SC790	5372024.7424	519496.24518981	132	790	1.24		
SC791	5372325.1707	519496.36786706	132	791	0.96		
SC792	5372652.2730	519493.26436583	132	792	1.13		
SC793	5373023.4861	519491.74209773	132	793	1.10		
SC794	5373289.0338	519490.27701449	132	794	0.92		
SC795	5373619.0687	519486.50078876	132	795	1.37		
SC796	5373887.4465	519483.18240677	132	796	1.52		
SC797	5373885.2154	519109.16924737	132	797	1.39		
SC798	5374295.4348	519081.17886068	132	798	1.18		
SC799	5374664.1412	519078.17132064	132	799	1.17		
SC800	5374752.5183	518680.57351958	132	800	1.21		
SC801	5375125.1909	518674.09236891	132	801	0.90		
SC802	5375488.4163	518674.18951917	132	802	0.85		
SC803	5375498.2536	518294.64253265	132	803	1.13		
SC804	5375721.6848	517924.51599002	132	804	1.05		
SC805	5376085.9354	517923.57152006	132	805	1.03		
SC806	5376430.5195	517925.78351174	132	806	1.30		
SC807	5376764.9603	517925.83644402	132	807	0.92		
SC808	5377062.2322	517925.87039380	132	808	1.01		
SC809	5377384.2365	517921.64347381	132	809	0.60		
SC810	5377724.9795	517972.47243498	132	810	0.65		
SC811	5378039.2710	517933.21475778	132	811	0.47		
SC812	5378336.1426	517922.79821914	132	812	0.35		
SC813	5378704.4037	517912.55113877	132	813	1.38		
SC814	5375091.8299	516679.34921458	133	814	0.47		
SC815	5374811.6350	516678.73473240	133	815	0.43		
SC816	5374458.9055	516678.15003424	133	816	0.60		
SC817	5374043.5814	516836.24284903	133	817	0.84		
SC818	5374051.8884	517433.62438211	133	818	1.28		
SC819	5373782.2411	517695.46770488	133	819	1.34		
SC820	5373502.3279	517929.91961456	133	820	0.64		
SC821	5373067.8964	517931.94204753	133	821	1.61		
SC822	5372624.8159	517932.38441397	133	822	1.34		
SC823	5372312.4749	517932.88119263	133	823	1.46		
SC824	5372080.9012	517938.47041005	133	824	1.29		
SC825	5372277.8793	518345.91609727	133	825	1.55		
SC826	5372278.9514	518658.00133138	133	826	1.51		
SC827	5372280.1963	518931.09280716	133	827	1.35		
SC828	5372281.6007	519263.34271989	133	828	1.52		
SC829	5371069.0546	524336.77846866	128	829	1.82		
SC830	5371440.9738	524336.23636024	128	830	1.80		
SC839	5373986.6177	524318.34009920	128	830	0.95		
SC831	5371759.8178	524332.08381367	128	831	1.22		
SC832	5372055.3684	524196.49842136	128	832	1.50		
SC833	5372326.7819	524055.31518295	128	833	1.10		
SC834	5372612.2421	523917.51042916	128	834	1.84		
SC835	5372940.2665	523895.06315492	128	835	0.85		
SC836	5373254.7792	524080.72133219	128	836	0.89		
SC837	5373380.5104	524257.24776250	128	837	1.36		
SC838	5373695.7983	524184.68002722	128	838	0.89		
SC840	5374303.6282	524321.19565216	128	840	1.27		
SC841	5374618.7452	524324.73796210	128	841	1.07		

TABLE 1B: DOE AREA1 MAGNETIC DATA

DOESITENO	LATITUDE	LONGITUDE	LINE	SITENO ONLY	CORR MAGSUS	MAG	MAG RESIDUAL
SC842	5374967.6533	524471.10680816	128	842	0.80		
SC843	5375301.0369	524477.02825432	128	843	1.29		
SC844	5375550.6977	524349.06891344	128	844	1.82		
SC845	5375762.1579	524300.20852657	128	845	1.82		
SC846	5376020.9789	524300.84432564	128	846	1.48		
SC847	5376335.7334	524298.33828240	128	847	1.26		
SC848	5376670.5426	524296.68086712	128	848	1.47		
SC849	5377108.7174	524288.39898398	128	849	1.82		
SC850	5377114.5722	521853.45355034	130	850	1.58		
SC851	5377110.5754	521542.49746391	130	851	1.45		
SC852	5377110.5202	521223.64169824	130	852	0.74		
SC853	5376868.1012	520913.71658561	130	853	0.96		
SC854	5376595.1046	520505.69853658	130	854	1.07		
SC855	5376342.6304	520285.51467965	130	855	0.79		
SC856	5376081.0334	520191.65596190	130	856	0.90		
SC857	5375941.2623	519899.38640566	130	857	0.79		
SC858	5375730.4461	519673.11016779	130	858	0.60		
SC859	5375459.8844	519622.84715368	130	859	0.30		
SC860	5375221.3198	519692.39143439	130	860	1.02		
SC861	5374923.2905	519855.59051252	130	861	0.85		
SC862	5374694.8369	520088.77519273	130	862	0.60		
SC863	5374423.1526	520282.42413976	130	863	1.17		
SC863w	5373899.2506	519863.34902064	233	863	1.23		
SC864	5373898.3212	520288.03027176	130	864	1.05		
SC865	5373874.6594	520674.16261737	233	865	0.72		
SC866	5373889.9675	520985.79277946	233	866	0.68		
SC867	5373895.0010	521286.75076644	233	867	0.91		
SC868	5373852.7487	521604.93298407	233	868	0.54		
SC869	5373905.9551	521894.91997465	233	869	0.70		
SC870	5373892.9133	522205.68693840	233	870	0.70		
SC872	5373832.2251	522614.64639214	233	872	1.13		
SC873	5373903.9765	522946.19279695	233	873	1.31		
SC874	5373911.1763	523251.98765001	233	874	1.21		
SC875	5373910.5870	523595.16436316	233	875	1.43		
SC876	5373910.4021	523912.18672501	233	876	1.44		
SC877	5373912.8181	524224.17370092	233	877	1.88		
SC878	5373918.0671	524832.68904722	233	878	1.11		
SC879	5373920.0077	525052.09500805	233	879	1.59		
SC880	5373920.9966	525353.40382082	233	880	1.03		
SC881	5373930.7452	525706.53409084	233	881	1.35		
SC882	5373990.3418	525998.01603767	233	882	0.81		
SC883	5374214.6831	526248.78910960	233	883	1.67		
SC884	5374388.1449	526447.76587883	233	884	1.06		
SC885	5374523.4186	526738.79450092	233	885	1.61		
SC886	5362656.7746	526776.92575741	240	886	1.53	57758.0	-26.9
SC887	5362652.3751	525895.44466623	240	887	1.63	57742.9	-43.3
SC888	5362648.4061	525113.28366070	240	888		57779.4	-14.6
SC889	5362645.9540	524347.43339927	240	889		57749.0	-39.3
SC890	5362643.7374	523806.36077391	240	890		57757.8	-28.5
SC891	5362641.5419	523321.77341703	240	891		57755.5	-29.3
SC892	5362639.8982	522870.96782585	240	892		57762.2	-21.2
SC893	5362638.6659	522368.01078595	240	893		57763.9	-23.6
SC894	5362636.9293	521761.01176842	240	894		57768.6	-13.0
SC895	5362635.8770	521400.28184303	240	895		57767.1	-14.0
SC896	5362634.3437	521097.10877784	240	896		57771.6	-16.3
SC897	5362633.5348	520735.41574136	240	897		57775.4	-2.0
SC898	5362632.6324	520428.94963571	240	898		57779.7	-7.1
SC899	5362632.6504	520135.87756065	240	899		57786.3	-0.5
SC900	5362630.8979	519809.14258184	240	900		57789.5	3.8
SC901	5362629.7261	519149.53016912	240	901	0.76	57794.4	4.1
SC902	5362630.3946	519474.99548415	240	902	1.30	57794.4	11.9
SC903	5362628.4317	518841.87338901	240	903	1.34	57811.1	27.2
SC904	5362627.3331	518507.28042253	240	904	1.28	57819.2	45.2
SC905	5362625.7899	518184.63239806	240	905	0.65	57827.2	35.3
SC906	5362624.7019	517867.45166743	240	906	0.59	57832.2	52.6
SC907	5362623.3584	517513.90550114	240	907	0.90	57838.2	62.8
SC908	5362621.7347	517162.13886409	240	908	1.39	57854.4	62.8

TABLE 1B: DOE AREA1 MAGNETIC DATA

DOESITENO	LATITUDE	LONGITUDE	LINE	SITENO ONLY	CORR MAGSUS	MAG	MAG RESIDUAL
SC909	5362615.6287	516879.54148937	240	909	1.18	57870.2	74.4
SC910	5362590.9676	516522.74261308	240	910	1.26	57879.1	83.7
SC911	5362519.6952	516222.26334543	240	911	1.34	57887.2	87.6
SC912	5362616.5432	515945.34324634	240	912	1.37	57893.9	95.7
SC913	5362613.7507	515647.54697073	240	913	0.86	57900.3	111.0
SC914	5362612.0453	515302.26327489	240	914	0.57	57912.6	126.3
SC915	5362797.7446	515133.22626835	240	915	0.97	57928.7	127.9
SC916	5362533.9472	514837.58569761	240	916	0.97	57910.8	114.7
SC917	5362601.7158	514481.41208184	240	917	1.16	57928.7	124.4
SC918	5362604.0061	514159.24433258	240	918	1.22	57935.7	129.0
SC919	5362604.2896	513808.57279933	240	919	1.26	57933.0	132.4
SC920	5362595.4771	513549.91010074	240	920	0.90	57935.6	138.9
SC921	5362591.9865	513225.55881933	240	921	0.78	57933.0	125.4
SC922	5362606.6188	512877.74887064	240	922	1.16	57937.1	135.3
SC923	5362600.9146	512459.95257132	240	923	0.71	57929.9	139.9
SC924	5362598.2513	512153.20176121	240	924	0.34	57918.4	123.9
SC925	5362720.4602	511850.33142683	240	925	0.99	57923.7	125.6
SC926	5362838.8408	511578.60886595	240	926	0.84	57916.9	127.3
SC927	5363116.9912	511509.32686960	240	927	0.55	57929.4	138.3
SC928	5363446.1939	511513.72845491	240	928	0.90	57953.2	154.9
SC929	5363709.1778	511469.89512192	240	929	0.78	57968.0	163.8
SC930	5363544.5954	511211.83905172	240	930	1.09	57952.9	158.1
SC931	5363329.2209	510958.34970830	240	931	0.67	57924.5	136.1
SC932	5363177.2920	510693.31523093	240	932	0.86	57907.6	124.4
SC933	5363094.1463	510382.83395630	240	933	1.01	57895.2	98.4
SC934	5363047.6121	510057.09286425	240	934	1.11	57890.6	94.2
SC935	5363017.7993	509724.61765045	240	935	0.90	57858.5	85.1
SC936	5363106.4549	509431.79110807	240	936	1.20	57853.9	72.1
SC937	5363385.6362	509295.35643343	240	937	0.46	57855.4	72.2
SC938	5363702.7492	509273.49733419	240	938	0.97	57867.0	87.2
SC939	5364029.3367	509260.62115005	240	939	1.49	57876.9	94.0
SC940	5364338.0075	509357.30561872	240	940	0.69	57893.6	127.9
SC941	5364688.3375	509458.94917625	240	941	1.09	57904.5	110.7
SC942	5364950.6560	509515.56500195	240	942	0.92	57924.9	134.1
SC943	5365286.2217	509518.00474833	240	943	0.90	57938.2	146.4
SC944	5365599.0024	509518.93768155	240	944	0.99	57942.6	143.6
SC945	5365808.3478	509390.36358080	240	945	1.60	57936.7	142.1
SC946	5365801.2111	509096.95899774	240	946	1.51	57918.0	128.3
SC947	5365802.5037	508762.27340751	240	947	1.45	57900.1	118.2
SC948	5365800.7597	508433.30703071	240	948	1.64	57878.5	86.6
SC949	5365635.6672	508196.98875161	240	949	1.49	57865.1	79.4
SC950	5365489.7411	507897.41108589	240	950	0.97	57847.6	47.5
SC951	5365604.3753	507645.09407826	240	951	0.65	57836.9	44.8
SC952	5365732.9605	507373.86119176	240	952	1.95	57837.8	49.5
SC953	5365803.0004	507103.81434595	240	953	0.57	57816.6	19.2
SC954	5365800.5843	506720.85848180	240	954	1.09	57803.3	17.4
SC955	5365805.0800	506345.66045876	240	955	1.18	57795.4	-1.0
SC956	5365804.3114	505798.29513778	240	956	1.20	57776.6	-19.0
SC957	5365802.3598	505473.82464631	240	957	1.01	57766.0	-26.8
SC958	5365805.0177	505124.87322257	240	958	1.24	57752.9	-41.8
SC959	5366174.5030	505111.68084939	240	959	1.01	57754.3	-37.4
SC960	5366607.3693	505088.01769946	240	960	1.37	57760.0	-35.0
SC961	5366608.0073	504567.01221321	240	961	1.37	57746.8	-32.7
SC962	5366640.7315	504061.56609057	240	962	1.11	57740.7	-58.7
SC963	5367000.5029	503798.41959425	240	963	1.20	57728.3	-61.8
SC964	5367014.6192	503286.80008076	240	964	0.95	57729.5	-65.9
SC965	5367012.2678	502427.73738213	240	965	1.13	57727.5	-62.9
SC966	5367318.9790	501891.61270944	240	966	1.05	57727.6	-62.2
SC967	5367412.0063	501094.25325456	240	967	1.26	57715.3	-68.0
SC968	5367379.7146	500319.85561565	240	968	0.69	57717.7	-80.1
SC969	5369020.4387	498685.65729223	236	969	0.79	57690.2	-527.7
SC970	5369018.4246	499499.38526397	236	970	0.98	57688.4	-527.7
SC971	5369018.6270	500373.78807020	236	971	0.41	57694.4	-519.4
SC972	5369017.6966	501064.31511488	236	972	0.58	57695.5	-519.0
SC973	5369017.3524	501906.59408589	236	973	0.77	57698.8	-513.4
SC974	5369018.3939	502384.33383233	236	974	0.70	57699.4	-511.3
SC975	5369015.7841	502898.68820386	236	975	1.22	57700.2	-509.1

TABLE 1B: DOE AREA1 MAGNETIC DATA

DOESITENO	LATITUDE	LONGITUDE	LINE	SITENO ONLY	CORR MAGSUS	MAG	MAG RESIDUAL
SC976	5369016.2969	503378.75078491	236	976	0.82	57702.8	-506.6
SC977	5369015.4600	503920.52108963	236	977	1.82	57703.2	-505.2
SC978	5369015.6749	504225.48946646	236	978	1.42	57706.2	-501.6
SC979	5369015.7595	504573.26160173	236	979	1.37	57713.2	-493.4
SC980	5369015.2027	504905.49464150	236	980	1.70	57716.2	-490.8
SC981	5368858.6999	505107.22012297	236	981	1.49	57724.9	-482.3
SC982	5368479.3607	505107.39005836	236	982	1.18	57726.1	-479.8
SC983	5369025.5000	505153.031	236	983	1.25	57723.5	-479.9
SC984	5369019.5000	505420.094	236	984	1.08	57730.2	-474.0
SC985	5369025.5000	505664.406	236	985	1.39	57732.4	-470.4
SC986	5369031.0000	505982.594	236	986	1.15	57745.6	-459.6
SC987	5369025.5000	506238.281	236	987	1.01	57750.4	-455.3
SC988	5369025.5000	506482.594	236	988	0.50	57759.9	-445.6
SC989	5369019.6725	506709.86262852	236	989	0.98	57762.4	-444.4
SC990	5369021.9809	507045.60493418	236	990	0.98	57776.2	-430.2
SC991	5369023.5922	507377.30309828	236	991	1.27	57795.0	-415.9
SC992	5368750.5232	507527.76982393	236	992	0.72	57806.7	-402.5
SC993	5368854.9169	507889.64477298	236	993	1.25	57819.8	-391.2
SC994	5368884.9301	508205.21849179	236	994	2.14	57839.2	-372.8
SC995	5368916.0996	508503.01443783	236	995	1.13	57862.1	-350.7
SC996	5368824.5822	508747.95889272	236	996	1.01	57879.2	-336.0
SC997	5368487.4155	508698.54159575	236	997	0.50	57877.1	-338.1
SC998	5368459.7184	508970.52583078	236	998	1.30	57897.9	-317.9
SC999	5368489.6806	509304.41905866	236	999	2.64	57923.9	-292.6
SC1000	5368527.2385	509695.98631402	236	1000	0.96	57955.0	-262.7
SC1001	5368471.8114	509935.72347194	236	1001	1.49	57974.9	-244.0
SC1002	5368588.3424	510225.74751302	236	1002	0.38	57997.6	-223.7
SC1003	5368770.5253	510489.99648113	236	1003	0.77	58018.0	-203.9
SC1004	5369065.8343	510676.22199162	236	1004	0.74	58036.9	-186.5
SC1005	5369080.5717	510966.67448757	236	1005	0.74	58063.6	-162.2
SC1006	5369053.0380	511231.33082469	236	1006	0.79	58087.2	-139.3
SC1007	5369022.3688	511721.10994472	236	1007	0.41	58128.7	-99.8
SC1008	5369015.2311	512214.84912262	236	1008	0.72	58184.0	-58.7
SC1009	5369027.7339	512730.65404265	236	1009	0.96	58214.7	-26.3
SC1010	5369035.5000	513096.563	236	1010	0.98	58223.9	-18.0
SC1011	5369044.5000	513355.000	236	1011	0.77	58235.9	-8.0
SC1012	5369031.2792	513608.99381726	236	1012	0.31	58264.2	18.8
SC1013	5369036.9843	513884.83934094	236	1013	1.61	58247.1	1.0
SC1014	5369046.5795	514246.91881190	236	1014	1.44	58254.4	5.8
SC1015	5369053.6261	514579.41280855	236	1015	1.25	58247.7	-0.7
SC1016	5369047.3096	514930.61772322	236	1016	1.15	58237.8	-10.8
SC1017	5369048.6449	515242.20373750	236	1017	1.08	58221.5	-28.6
SC1018	5369048.2707	515568.61978944	236	1018	1.32	58204.8	-47.0
SC1019	5369048.3653	515875.01352425	236	1019	1.66	58187.4	-65.2
SC1020	5369049.4140	516221.84238915	236	1020	1.49	58157.4	-95.6
SC1021	5369052.2954	516555.50085994	236	1021	1.61	58133.0	-120.2
SC1022	5369054.4510	516888.12313949	236	1022	1.46	58095.0	-157.5
SC1023	5369055.1691	517223.92635977	236	1023	1.58	58062.4	-189.2
SC1024	5369057.4750	517540.94086739	236	1024	1.25	58024.9	-227.9
SC1025	5369061.3432	518164.62959222	236	1025	0.91	57975.1	-279.2
SC1026	5369064.1469	518525.23299217	236	1026	1.34	57907.8	-303.1
SC1027	5369063.7466	518845.45951471	236	1027	1.20	57906.2	-345.4
SC1028	5369063.6695	519208.31273987	236	1028	0.89	57897.7	-356.2
SC1029	5369064.8133	519514.44840942	236	1029	1.39	57885.0	-369.5
SC1030	5369066.2058	519820.00943197	236	1030	1.63	57864.5	-389.3
SC1031	5369068.6068	520133.83487479	236	1031	1.06	57856.1	-395.6
SC1031	5369069.0131	520436.78179190	236	1031	1.73	57844.0	-407.9
SC1033	5369070.6709	520782.78569606	236	1033	1.42	57840.3	-411.3
SC1034	5369071.7672	521141.49837798	236	1034	1.46	57829.1	-423.6
SC1035	5369071.4537	521655.38034394	236	1035	1.61	57825.0	-427.4
SC1036	5369074.8605	522129.01833892	236	1036	1.44	57820.2	-431.5
SC1037	5369074.5913	522629.10964765	236	1037	0.70	57818.9	-433.7
SC1038	5369078.9776	523107.42982767	236	1038	1.68	57818.9	-433.7
SC1039	5369078.7552	523620.21647886	236	1039	3.26	57819.4	-432.8
SC1040	5369070.6255	524350.38709841	236	1040	3.26	57817.3	-433.3
SC1041	5369112.6085	525218.01606185	236	1041	1.90	57825.7	-423.7
SC1042	5369076.7119	525923.29337331	236	1042	1.61	57826.3	-421.9

TABLE 1B: DOE AREA1 MAGNETIC DATA

DOESITENO	LATITUDE	LONGITUDE	LINE	SITENO ONLY	CORR MAGSUS	MAG	MAG RESIDUAL
SC1043	5368463.8620	526422.54514830	236	1043	1.30	57824.1	-423.3
SC1044	5368290.4797	526871.40694655	236	1044	1.94	57818.6	-428.7
SC1045	5379298.5426	516496.85641783	134	1045	1.27	57816.5	8.9
SC1046	5378605.7020	516498.12012409	134	1046	1.13	57820.2	10.5
SC1047	5378148.1331	516573.78042282	134	1047	0.43	57817.4	8.6
SC1048	5377933.7783	516911.02481130	134	1048	1.30	57817.4	10.4
SC1049	5377481.2315	516733.04648938	134	1049	0.62	57806.3	-0.2
SC1050	5377032.7561	516580.13486804	134	1050	0.54	57807.6	1.0
SC1051	5376557.1634	516580.94006370	134	1051	0.57	57804.4	-0.9
SC1052	5376081.8637	516581.93093044	134	1052	0.51	57802.9	-1.4
SC1053	5375616.9954	516582.69318634	134	1053	0.62	57807.1	2.5
SC1054	5375477.7981	516299.46111705	134	1054	0.65	57805.0	-1.0
SC1055	5375201.2902	516069.30833173	134	1055	0.49	57818.2	11.9
SC1056	5374923.0698	515901.34841888	134	1056	0.62	57828.7	21.8
SC1057	5374672.3864	515710.98674533	134	1057	0.78	57826.0	20.4
SC1058	5374455.9631	515468.06371599	134	1058	0.68	57834.4	28.9
SC1059	5374230.6502	515243.26610839	134	1059	1.03	57845.4	40.4
SC1060	5374004.5092	515009.16508906	134	1060	0.78	57860.9	57.1
SC1061	5373760.8628	514799.46314757	134	1061	1.19	57873.0	66.6
SC1062	5373537.7382	514562.81583246	134	1062	1.57	57890.8	87.2
SC1063	5373255.8306	514324.33085687	134	1063	1.57	57915.2	114.5
SC1064	5372955.3555	514174.58490827	134	1064	1.73	57940.5	141.7
SC1065	5372674.2697	514006.94141165	134	1065	1.40	57964.4	166.9
SC1066	5372366.2120	513918.58052715	134	1066	1.43	57994.0	198.7
SC1067	5372093.9341	513710.26313656	134	1067	0.65	58027.4	230.1
SC1068	5371754.4291	513621.26823258	134	1068	1.13	58049.5	252.4
SC1069	5371456.2413	513606.30630299	134	1069	0.65	58082.8	284.6
SC1070	5371211.5350	513454.14963136	134	1070	0.57	58100.1	302.0
SC1071	5371005.3556	513901.97706294	134	1071	0.46	58125.0	323.0
SC1072	5370667.8897	513683.46729648	134	1072	0.65	58139.8	344.6
SC1073	5370344.5746	514117.43124083	134	1073	1.11	58165.3	373.2
SC1074	5370072.4781	513952.17976130	134	1074	1.94	58180.1	392.8
SC1075	5369726.9632	513974.67311853	134	1075	1.27	58192.2	406.3
SC1076	5369401.0818	513983.00829403	134	1076	1.70	58198.5	410.9
SC1077	5369063.7557	513914.32264621	134	1077	1.19	58201.1	415.7
SC1078	5368769.0373	513919.85248951	134	1078	1.40	58205.7	419.7
SC1079	5368455.4055	513915.95354123	134	1079	1.16	58205.7	419.6
SC1080	5368123.5535	513891.37963245	134	1080	1.19	58205.0	420.5
SC1081	5367812.9646	513915.82993579	134	1081	1.30	58198.6	416.4
SC1082	5367440.1657	513920.59253239	134	1082	1.38	58182.0	409.3
SC1083	5366983.8197	514045.51230602	134	1083	1.94	58169.6	394.7
SC1084	5366639.1790	514238.96353946	134	1084	1.27	58165.1	392.1
SC1085	5366336.1890	514306.24994584	134	1085	1.65	58155.1	381.4
SC1086	5366036.7623	514394.23106352	134	1086	2.11	58138.5	364.6
SC1087	5365737.7055	514454.29748265	134	1087	1.27	58114.2	341.6
SC1088	5365509.9252	514292.62993585	134	1088	1.24	58099.7	324.4
SC1089	5365202.3844	514454.63573397	134	1089	1.94	58090.0	312.7
SC1090	5365037.9127	514728.97394935	134	1090	1.84	58060.4	284.1
SC1091	5364711.2804	514731.63531926	134	1091	1.67	58040.1	261.4
SC1092	5364369.3482	514740.27887472	134	1092	0.89	58013.0	234.6
SC1093	5364047.4186	514738.39293759	134	1093	0.70	57992.9	213.7
SC1094	5363637.5246	514739.63262393	134	1094	0.70	57965.2	186.6
SC1095	5363377.5756	515005.21429971	134	1095	1.00	57936.1	159.3
SC1096	5363101.4247	515132.93849696	134	1096	0.89	57912.4	133.4
SC1097	5362528.3766	514805.13065263	134	1097	1.38	57878.5	100.0
SC1098	5362194.2966	514747.76841369	134	1098	1.78	57867.7	84.0
SC1099	5361865.1906	514832.58225408	134	1099	1.89	57853.3	71.2
SC1100	5361590.5192	514755.25705965	134	1100	1.13	57836.0	57.6
SC1101	5361240.7967	514773.18998836	134	1101	1.84	57822.8	41.2
SC1102	5360974.1910	514759.84419048	134	1102	0.95	57815.7	31.1
SC1103	5360624.2423	514757.38705868	134	1103	1.67	57800.9	17.2
SC1104	5360313.2099	514760.78771555	134	1104	1.62	57790.9	4.9
SC1105	5359852.0635	514758.44031849	134	1105	1.65	57786.6	1.8
SC1106	5359361.0520	514752.83231997	134	1106	1.40	57756.5	-29.7
SC1107	5358899.7318	514752.49001189	134	1107	1.40	57752.8	-33.3
SC1108	5358345.9854	514754.88832992	134	1108	1.11	57743.6	-44.3
SC1109	5357782.2150	514755.32167616	134	1109	2.27	57734.1	-54.0

TABLE 1B: DOE AREA1 MAGNETIC DATA

DOESITENO	LATITUDE	LONGITUDE	LINE	SITENO ONLY	CORR MAGSUS	MAG	MAG RESIDUAL
SC1110	5357146.0303	514756.06331122	134	1110	1.51	57721.7	-66.4
SC1111	5356555.9643	514757.01967364	134	1111	1.08	57711.9	-75.7
SC1112	5356190.6886	514759.48529010	134	1112	1.76	57707.7	-81.0
SC1113	5355351.5435	514760.05931294	134	1113	1.51	57699.7	-90.3
SC1114	5354566.6850	514764.09345873	134	1114	1.27	57693.1	-98.0
SC1115	5353749.6666	515571.00355477	134	1115	1.89	57690.4	-100.6
SC1116	5352938.0509	514765.48482755	134	1116	2.00	57681.2	-110.2
SC1117	5352087.3414	514770.94503155	134	1117	1.62	57679.3	-113.1
SC1118	5351344.5183	514773.01893738	134	1118	1.67	57669.5	-124.2
SCbase	5362609.5182	514749.57727070	235				
SCbase2	5368656.4526	513921.46618907					
	5369061.4129	518164.62345275					
MINIMUM					0.09	57669.5	-527.7
MAXIMUM					3.26	58264.2	420.5
MEAN					1.27	57891.4	-42.6
STD					0.40	152.6	245.6