UTAH POWER & LIGHT COMPANY

1983 SUBSIDENCE REPORT

May 1984

RECEIVED

JUN 11 1984

DIVISION OF OIL
GAS & MINING

TABLE OF CONTENTS

Introduction	1
Deer Creek 9th East,	
Wilberg 1st Right	3
Deer Creek 4th through 7th East Longwall Panels,	
Wilberg 10th and 11th Right Longwall Panels	5
Deer Creek 1st North	7
Beehive 8th West Off 2nd North	8
Little Dove 1st North,	
Old American Fuels Mine	9
Beehive 4th West,	
Deseret 5th West	10
Wilberg 1st and 2nd West Longwall Panels	11
Other Studied Areas	12
Summary	13

APPENDICES

Des-Bee-Dove Mines, Subsidence Study by Engineering Enterprises, Inc.

Deer Creek Mine Subsidence Graphs, Printouts, Surface Monument Location Maps, U. S. Bureau of Mines

Wilberg Mine, Printouts and Surface Monument Location Maps, U. S. Bureau of Mines

Introduction

Utah Power & Light Company's (UP&L) East Mountain Subsidence Monitoring Study is an ongoing project designed to detect, observe and report the effects of mining induced subsidence above the Deer Creek, Wilberg and Des-Bee-Dove Mines (see Figure 1). This is the third such annual report submitted and covers the period between August 1982 and August 1983.

The initial report submitted in 1982 details the monitoring methods used in this study; therefore, they are not discussed here in depth. Briefly, UP&L uses aerial photogrammetric survey methods augmented by conventional monumented on-the-ground surveys and an annual helicopter reconnaissance flight to monitor subsidence. The Bureau of Mines continues to survey for subsidence above areas of multiple seam longwall mining in the Deer Creek and Wilberg Mines.

Location

Figure 2 shows all areas above UP&L's coal mines which have potential for mining induced subsidence and were studied in 1983 to detect subsidence. A helicopter reconnaissance flight on July 8, 1983 revealed no additional areas of fractures or visible surface disturbance. The only new area of subsidence was detected by a Bureau of Mines

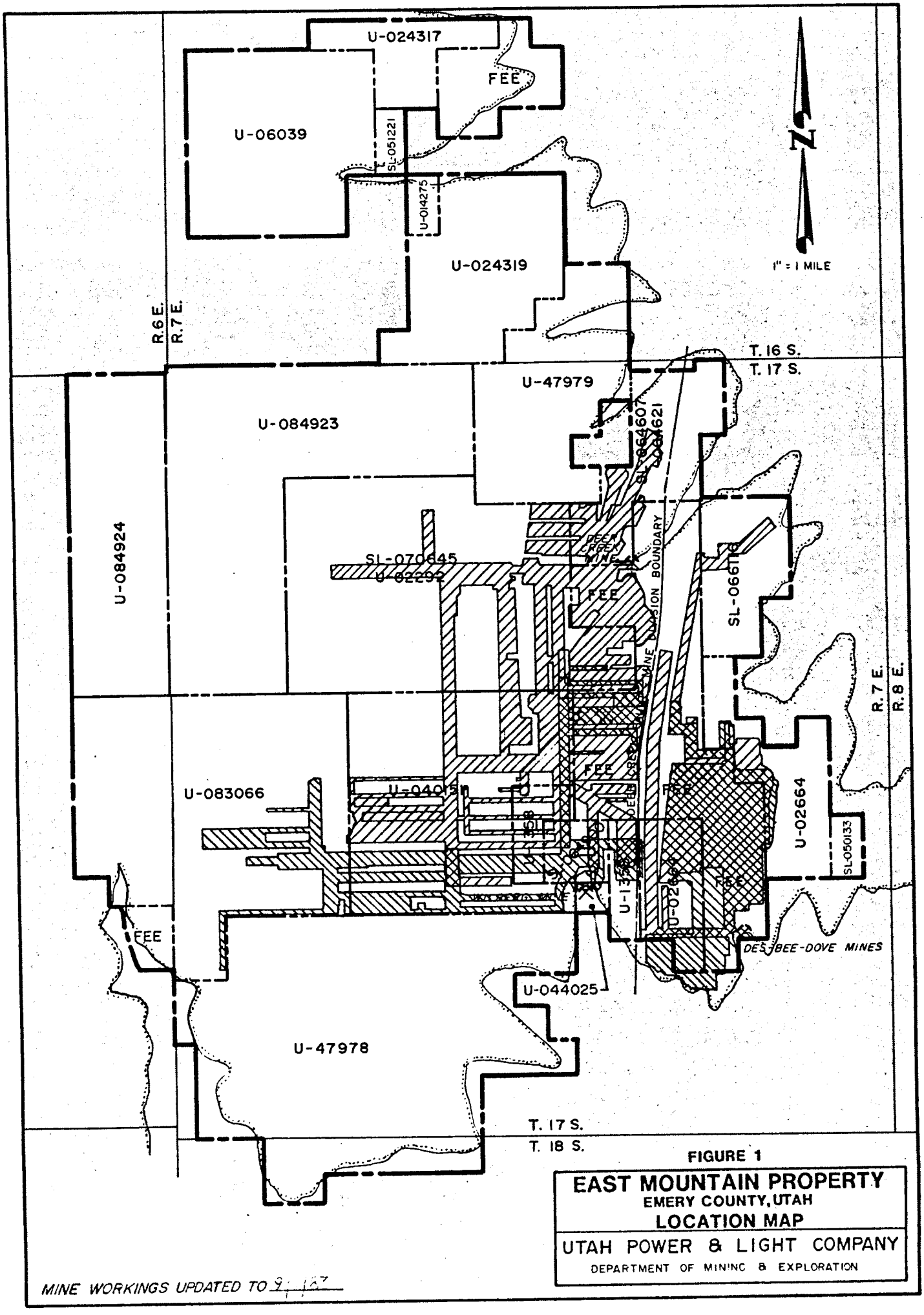
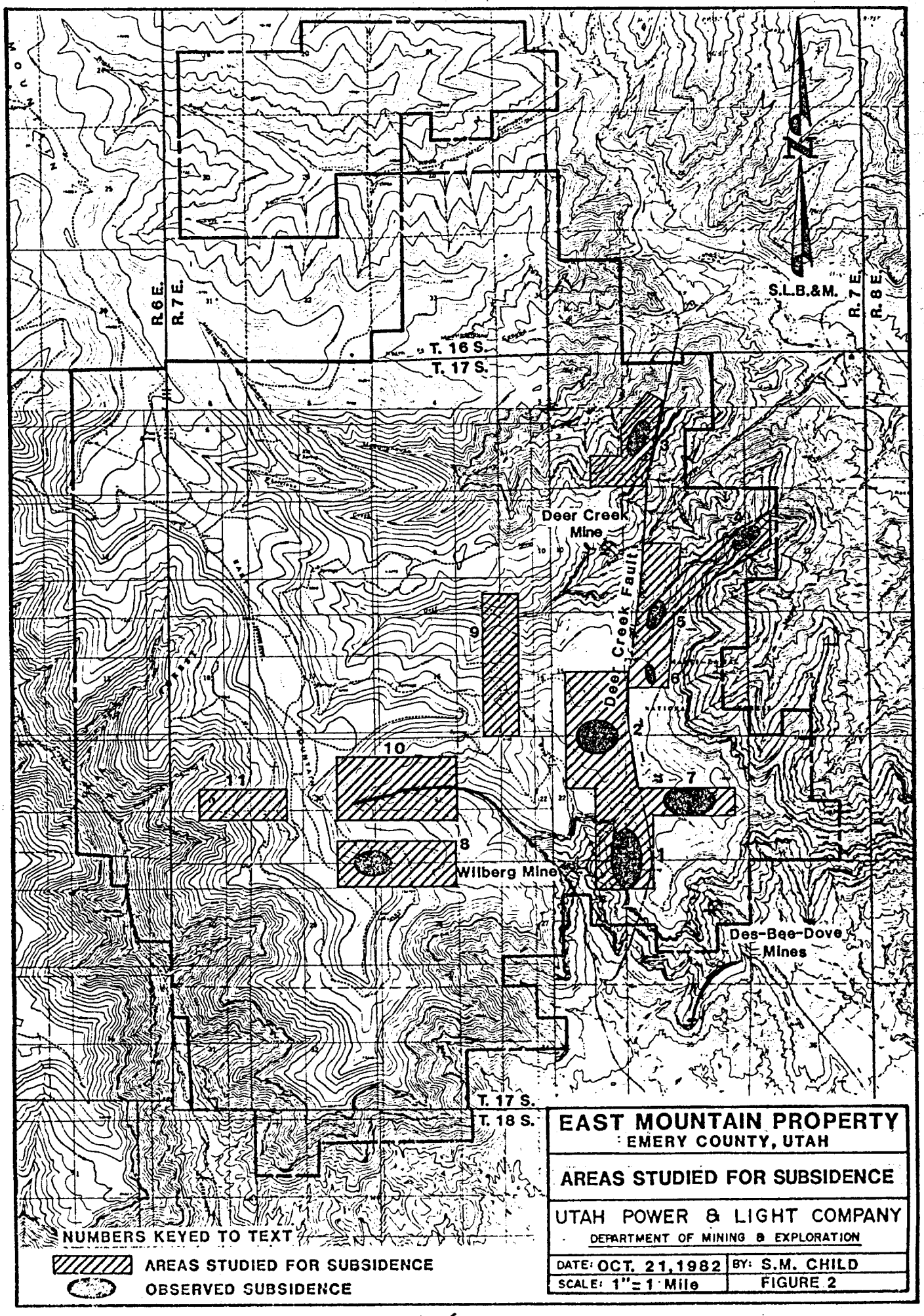


FIGURE 1

EAST MOUNTAIN PROPERTY
EMERY COUNTY, UTAH
LOCATION MAP

UTAH POWER & LIGHT COMPANY
DEPARTMENT OF MINING & EXPLORATION

MINE WORKINGS UPDATED TO 9/87



EAST MOUNTAIN PROPERTY
EMERY COUNTY, UTAH

AREAS STUDIED FOR SUBSIDENCE

UTAH POWER & LIGHT COMPANY
DEPARTMENT OF MINING & EXPLORATION

DATE: OCT. 21, 1982	BY: S.M. CHILD
SCALE: 1" = 1 Mile	FIGURE 2

on-the-ground survey of the monument network over the Wilberg 1st and 2nd West longwall panels. Although this area was photographed by aerial photography, the photos were not read for elevation because the Bureau of Mines mapping has adequately defined the subsidence.

Each of the areas shown is discussed in detail, by area, in the following paragraphs. Previous reports described the topographic and geologic setting of the subsidence areas, thus, mention of such will only be given when necessary in this report. If the reader has questions regarding this information, the 1981 and 1982 subsidence monitoring reports should be consulted.

As mentioned previously, various methods have been employed in detecting and measuring subsidence. In the following, unless otherwise noted, measurements were made by aerial photogrammetry.

In five areas of subsidence the angle of draw has been calculated and reported herein. However, in some of the areas of subsidence, the mine workings are surrounded by burned coal. The failure of the clinker beds in areas of burned coal promotes subsidence outside of the mined area making it nearly impossible to make a reliable angle of draw estimate. In other cases, the zone of subsidence covers a small area and is contained within the area of final mining. This suggests that the subsidence hasn't stabilized and a calculation of angle of draw would be meaningless.

Area 1

Deer Creek 9th East - Wilberg 1st Right

Subsidence in this area was first documented in the 1981 subsidence monitoring report submitted in December 1982. The relationship of the area of subsidence with the present Deer Creek and Wilberg Mine workings is shown in Figure 3, 4 and 5.

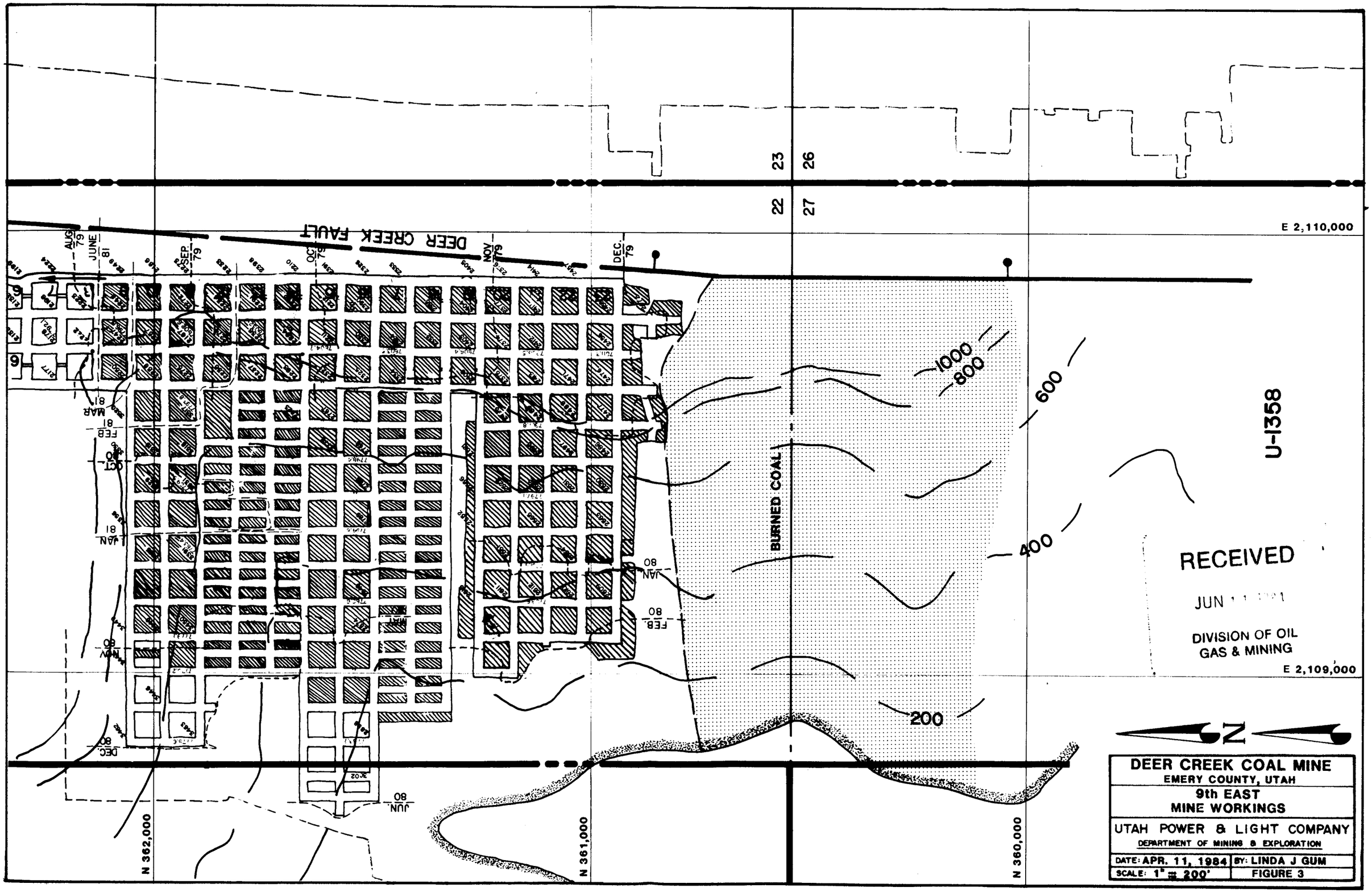
Subsidence monitoring during 1983 showed a continuation of subsidence even though the section has been abandoned since 1981. The maximum subsidence observed to date is 16 feet and occurs about 200 feet south of the southernmost mined-out area in 1st Right Wilberg over an area in which both the Hiawatha and Blind Canyon Seams are burned. This supports the theory that the clinker beds have been crushed allowing subsidence to occur well outside the area of mine workings.

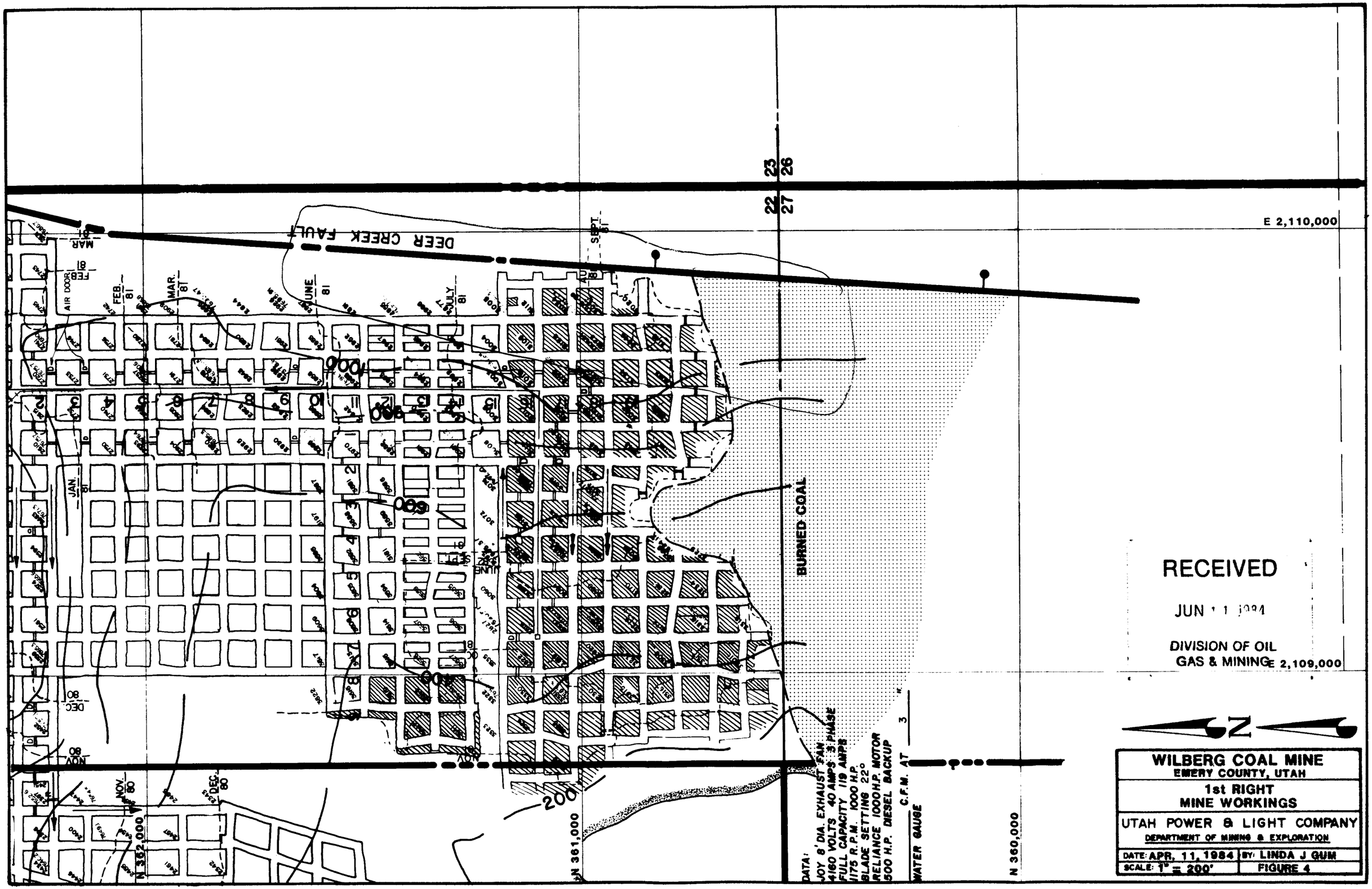
In addition to the increased subsidence from 1982 to 1983, the 1983 subsidence map reflects an update of surface fractures which form the graben-like structure seen in this area.

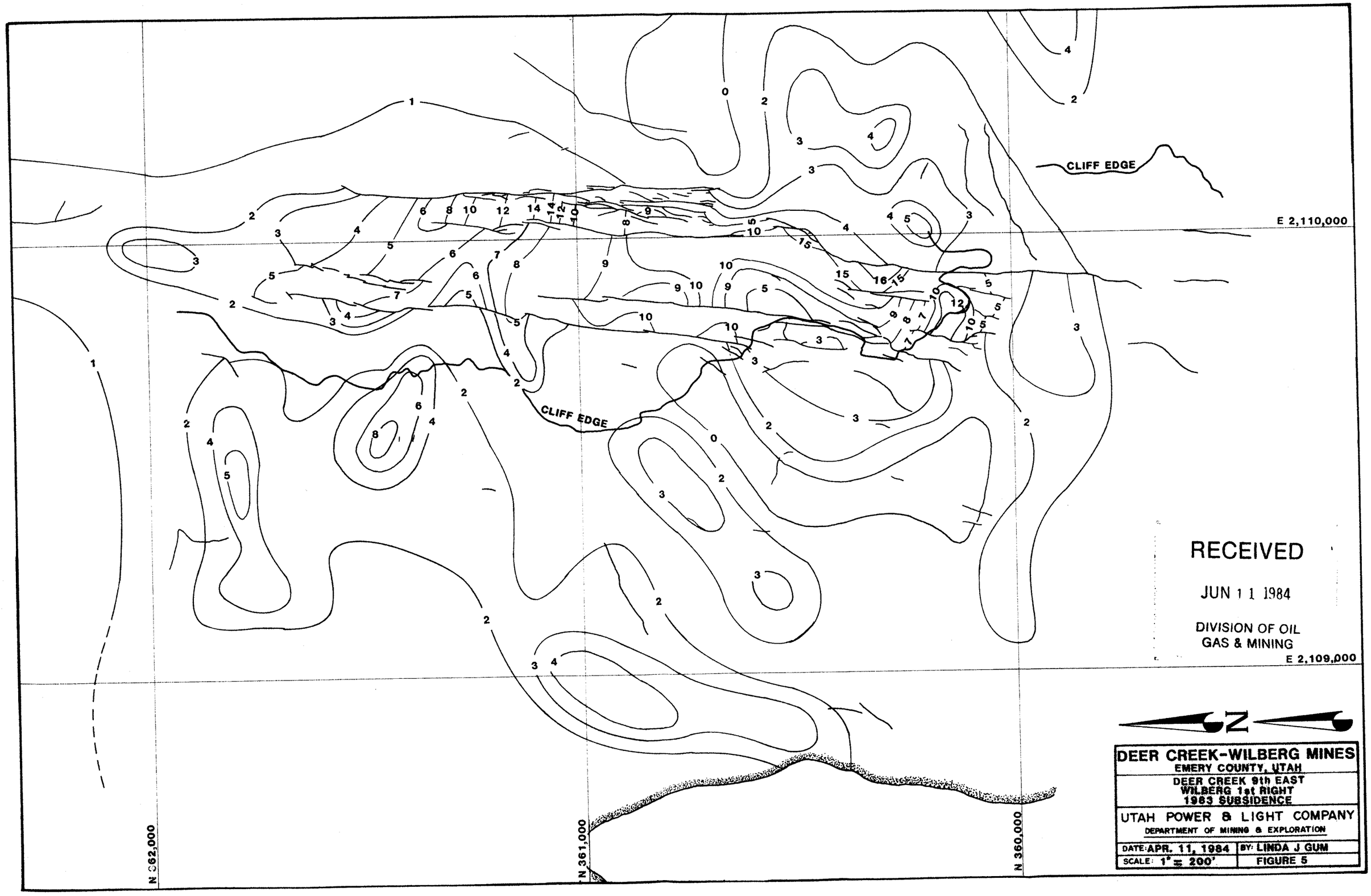
The angle of draw of subsidence in this area appears to be influenced by the Deer Creek Fault plane. On the east side of the mine workings the subsidence abruptly stops in an easterly direction about 200 feet east of the mine workings which coincides with the Deer Creek Fault trace.

In this area the mine workings are covered with 1200 feet of overburden indicating a 9.5° angle of draw on subsidence.

No hydrologic impacts have been observed within this area of subsidence.


DEER CREEK FAULT
BURNED COAL
U-1358
1000
800
600
400
200
23
26
22
27
E 2,110,000
E 2,109,000
N 362,000
N 361,000
N 360,000
AUG 79
JUNE 18
SEP 79
OCT 79
NOV 79
DEC. 79
MAR 81
FEB 81
OCT 10
JAN 81
NOV 80
DEC 80
JUN 80
MAR 80
JAN 80
FEB 80
RECEIVED
JUN 11 1984
DIVISION OF OIL
GAS & MINING
DEER CREEK COAL MINE
EMERY COUNTY, UTAH
9th EAST
MINE WORKINGS
UTAH POWER & LIGHT COMPANY
DEPARTMENT OF MINING & EXPLORATION
DATE: APR. 11, 1984
BY: LINDA J GUM
SCALE: 1" = 200'
FIGURE 3


DEER CREEK FAULT
BURNED COAL
AIR DOOR
JAN. 81
FEB. 81
MAR. 81
JUNE 81
JULY 81
SEPT. 81
NOV. 80
DEC. 80
MAR. 81
FEB. 81
22
27
23
26
E 2,110,000
E 2,109,000
N 361,000
N 360,000
N 362,000
DATA:
JOY 8' DIA. EXHAUST FAN
4160 VOLTS 40 AMPS 3 PHASE
FULL CAPACITY 119 AMPS
1175 R.P.M. 1000 H.P.
BLADE SETTING 22°
RELIANCE 1000H.P. MOTOR
500 H.P. DIESEL BACKUP
C.F.M. AT 3"
WATER GAUGE
RECEIVED
JUN 11 1984
DIVISION OF OIL
GAS & MINING
WILBERG COAL MINE
EMERY COUNTY, UTAH
1st RIGHT
MINE WORKINGS
UTAH POWER & LIGHT COMPANY
DEPARTMENT OF MINING & EXPLORATION
DATE: APR. 11, 1984
BY: LINDA J GUM
SCALE: 1" = 200'
FIGURE 4


CLIFF EDGE
CLIFF EDGE
E 2,110,000
E 2,109,000
N 362,000
N 361,000
N 360,000
RECEIVED
JUN 11 1984
DIVISION OF OIL
GAS & MINING
DEER CREEK-WILBERG MINES
EMERY COUNTY, UTAH
DEER CREEK 9th EAST
WILBERG 1st RIGHT
1983 SUBSIDENCE
UTAH POWER & LIGHT COMPANY
DEPARTMENT OF MINING & EXPLORATION
DATE: APR. 11, 1984
BY: LINDA J GUM
SCALE: 1" = 200'
FIGURE 5

Area 2

Deer Creek 4th, 5th 6th and 7th East Longwall Panels

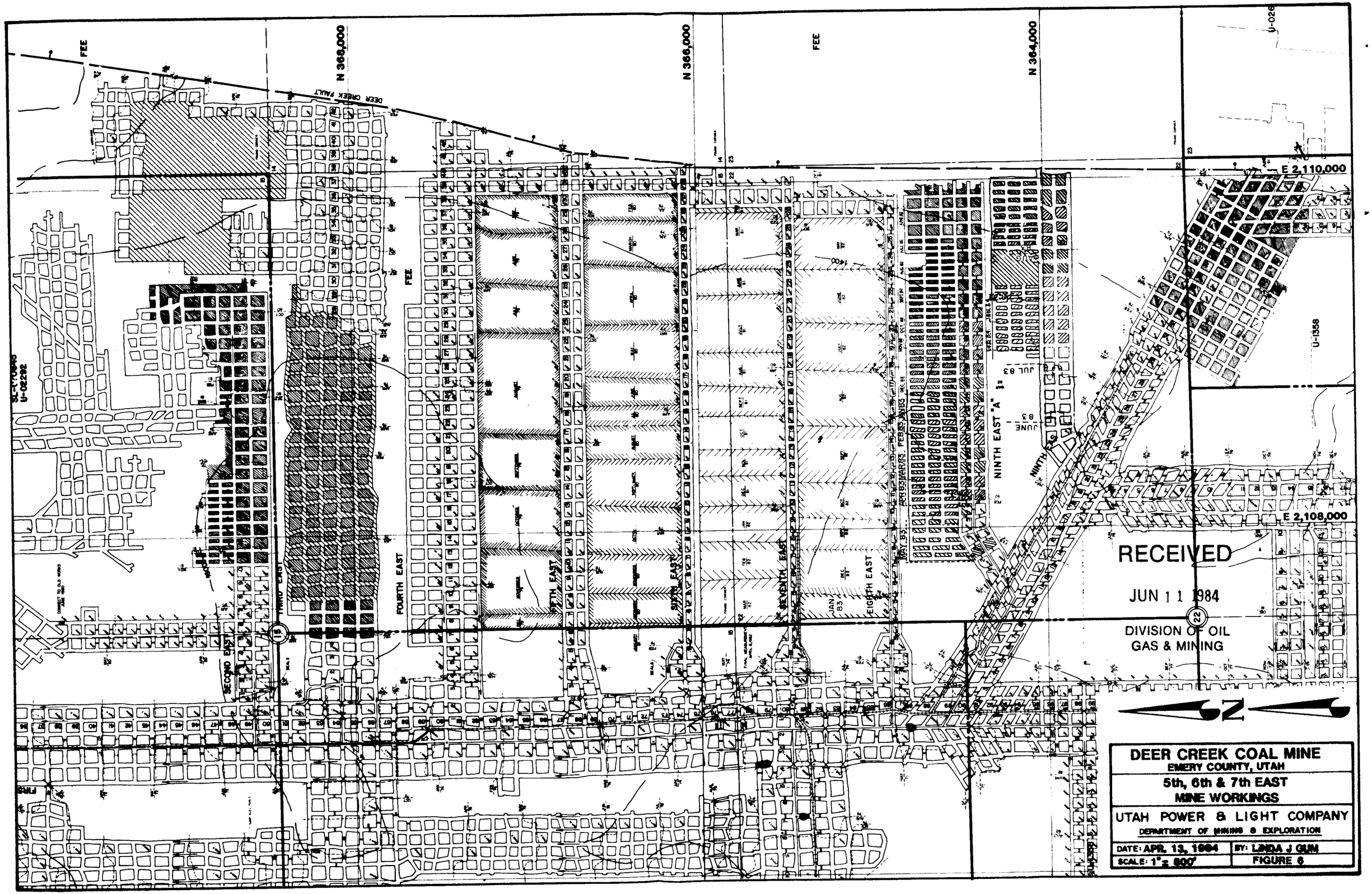
Wilberg 10th and 11th Right Longwall Panels

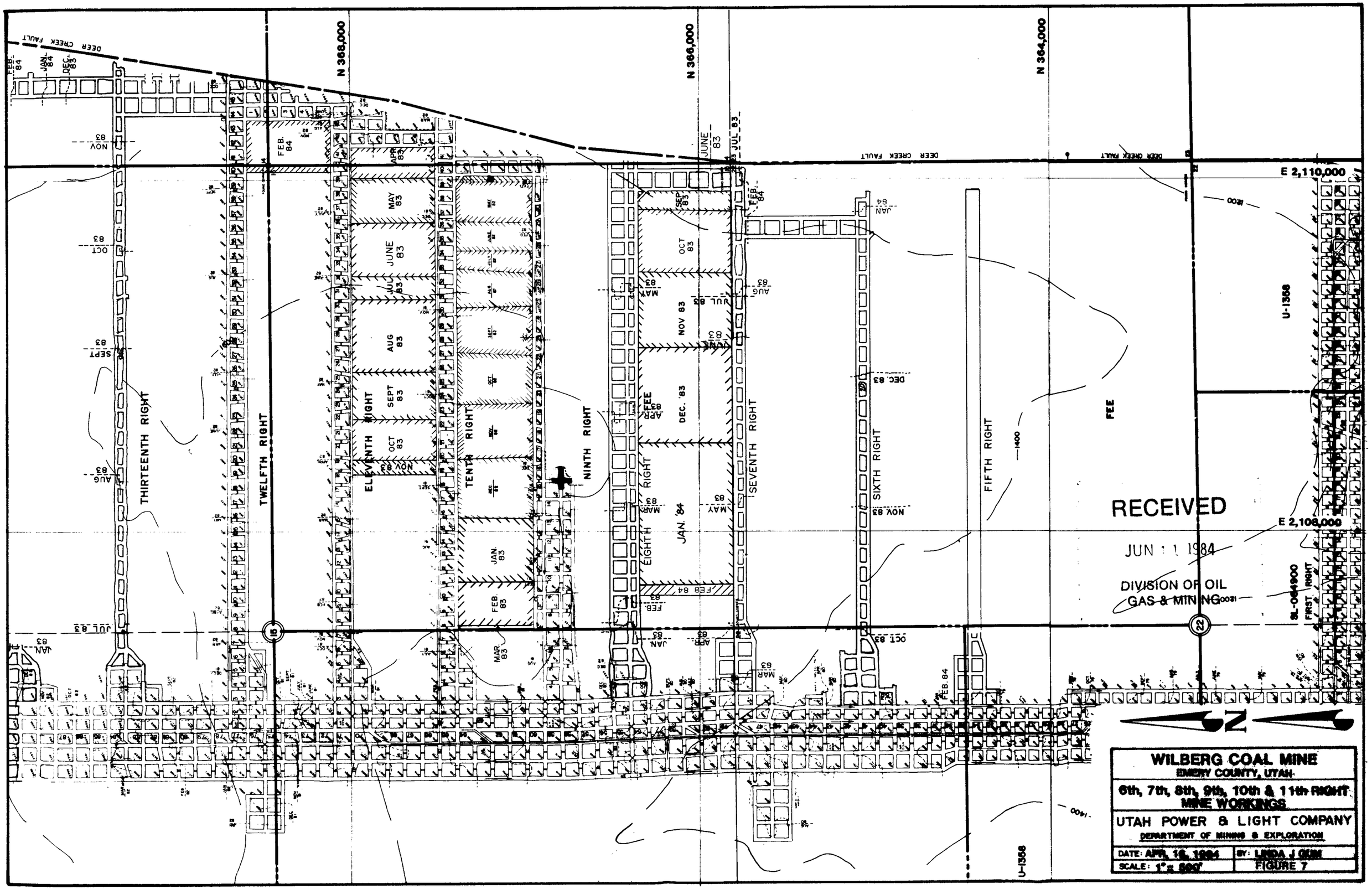
By August of 1983 longwall mining had been completed in the 4th through 7th East longwall panels in the Deer Creek Mine. In the Wilberg Mine the 10th Right longwall panel had been completed and over 1,000 feet of the 11th Right panel had been mined in the underlying seam (Figures 6 and 7).

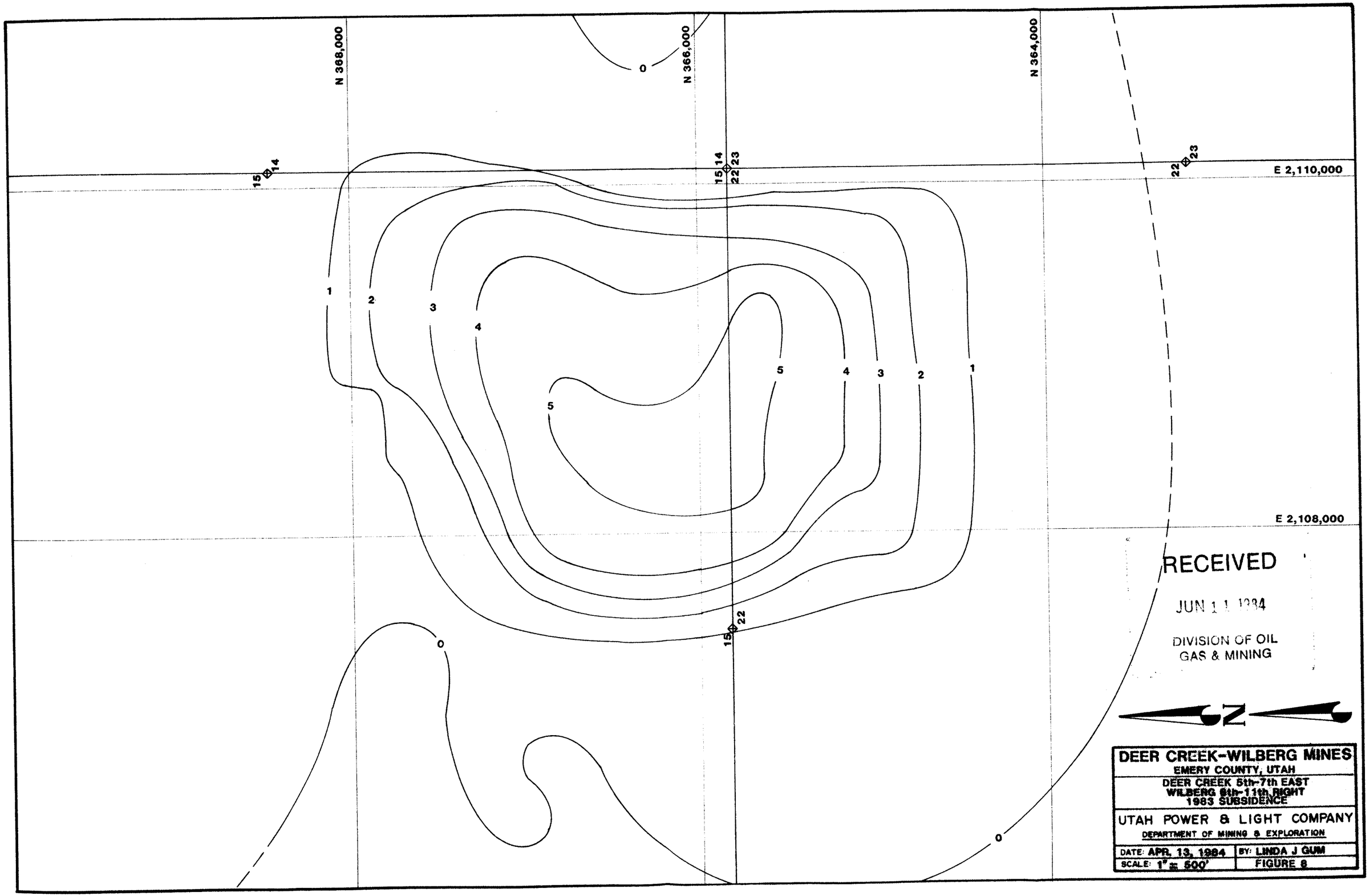
Bureau of Mines subsidence monumentation and surveys revealed an increase in the area of subsidence. The maximum subsidence of five feet measured in 1982 remained the same. The area of the subsidence did increase, however, as the down-dropped zone elongated to both the north and south of the previously subsided area (Figure 8). Measurements indicate that the zone of greatest subsidence occurs over the Deer Creek 5th and 6th East longwall panels (which are to the south of the Wilberg 10th and 11th Right panels).

An examination of Figures 6, 7, and 8 reveals that on both the east and west sides of the mined areas the angle of draw ranges from vertical to 6.5°. It is interesting to point out that the subsidence measured in August 1983 appears to be following the location of the 11th Right longwall face Wilberg Mine (see coordinate N 368,000, E 2,108,350 Figure 6, 7 and 8).

No surface fractures or other visible effects have occurred over this area. No springs have been identified over this subsidence area but two springs, one-fourth to one-third mile to the west show no affects from the subsidence (see Hydrologic Monitoring Report, March 1984).


FEE
N 366,000
N 366,000
N 364,000
DEER CREEK FAULT
U-026
E 2,110,000
E 2,108,000
U-1358
U-02292
SECOND EAST
THIRD EAST
FOURTH EAST
FIFTH EAST
SIXTH EAST
SEVENTH EAST
EIGHTH EAST
NINTH EAST
JUL 83
JUNE 83
MAY 83
APR 83
MAR 83
FEB 83
JAN 83
RECEIVED
JUN 11 1984
DIVISION OF OIL
GAS & MINING
DEER CREEK COAL MINE
EMERY COUNTY, UTAH
5th, 6th & 7th EAST
MINE WORKINGS
UTAH POWER & LIGHT COMPANY
DEPARTMENT OF MINING & EXPLORATION
DATE: APR. 13, 1984
BY: LINDA J GUM
SCALE: 1" = 600'
FIGURE 6


WILBERG COAL MINE
EMERY COUNTY, UTAH
6th, 7th, 8th, 9th, 10th & 11th RIGHT
MINE WORKINGS
UTAH POWER & LIGHT COMPANY
DEPARTMENT OF MINING & EXPLORATION
DATE: APR. 16, 1984
BY: LINDA J GEM
SCALE: 1" = 800'
FIGURE 7
RECEIVED
JUN 11 1984
DIVISION OF OIL
GAS & MINING
N 368,000
N 366,000
N 364,000
E 2,110,000
E 2,108,000
DEER CREEK FAULT
THIRTEENTH RIGHT
TWELFTH RIGHT
ELEVENTH RIGHT
TENTH RIGHT
NINTH RIGHT
EIGHTH RIGHT
SEVENTH RIGHT
SIXTH RIGHT
FIFTH RIGHT
FIRST RIGHT
FEE
U-1358
SL-064900
15
22

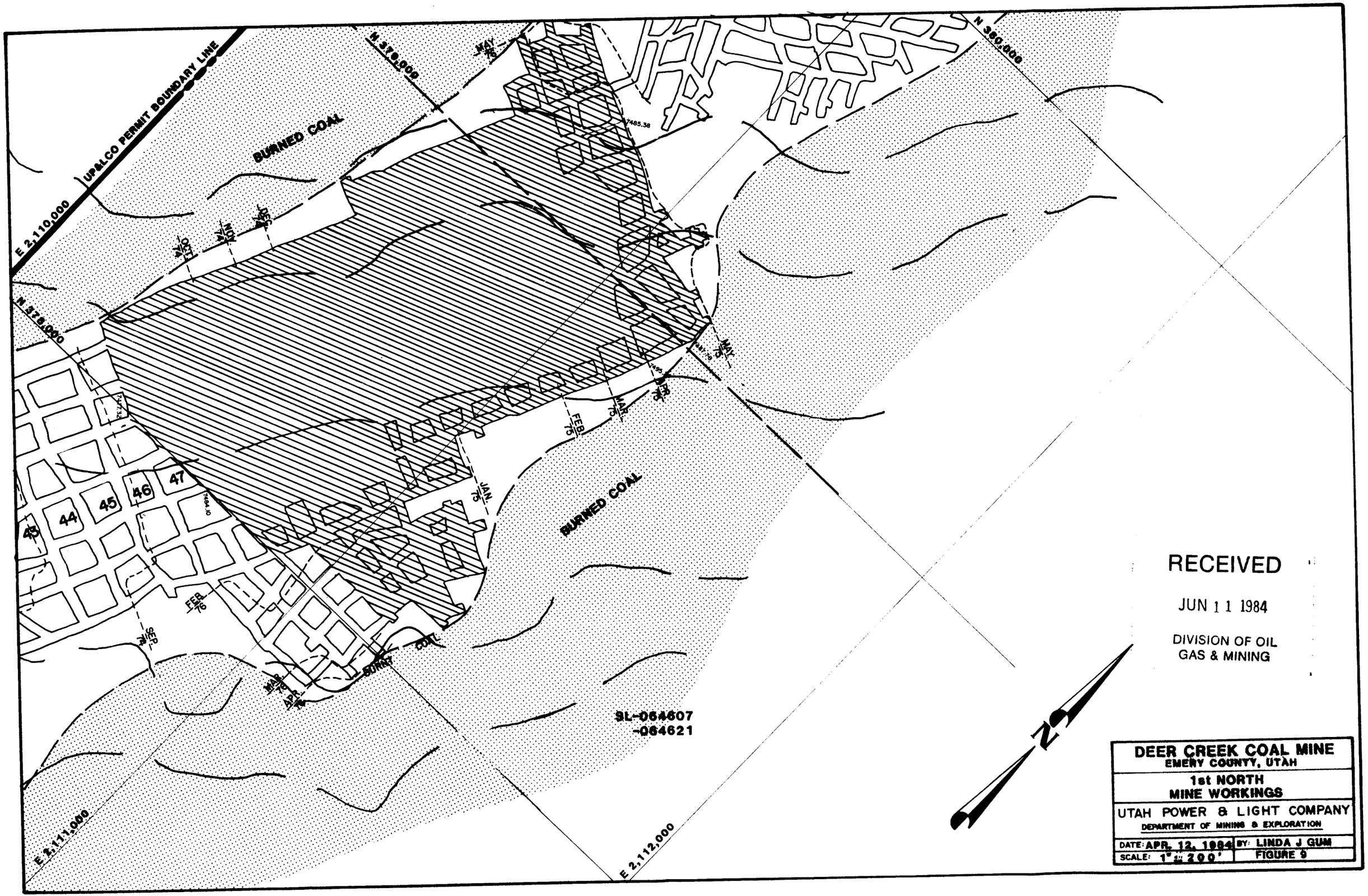

N 368,000
N 366,000
N 364,000
E 2,110,000
E 2,108,000
0
1
2
3
4
5
15
14
22
23
RECEIVED
JUN 11 1984
DIVISION OF OIL
GAS & MINING
DEER CREEK-WILBERG MINES
EMERY COUNTY, UTAH
DEER CREEK 5th-7th EAST
WILBERG 8th-11th RIGHT
1983 SUBSIDENCE
UTAH POWER & LIGHT COMPANY
DEPARTMENT OF MINING & EXPLORATION
DATE: APR. 13, 1984
BY: LINDA J GUM
SCALE: 1" = 500'
FIGURE 8

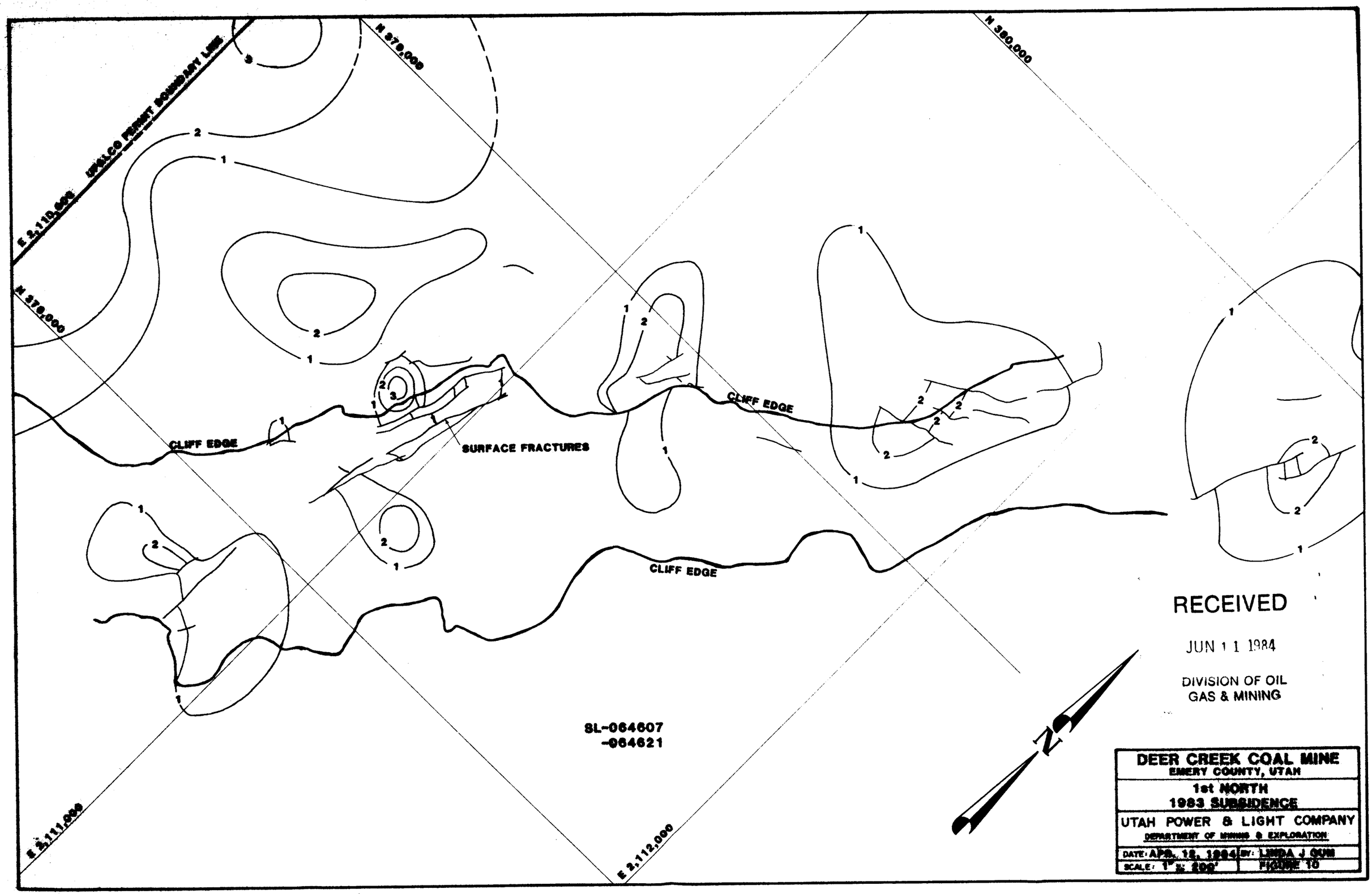
Area 3

Deer Creek 1st North

The 1st North section of the Deer Creek Mine was abandoned and sealed in 1978 after having been completely mined out. During the period from August 1982 to August 1983 the maximum subsidence over this section increased to 3 feet. As in the past, the subsidence is centered above the abandoned mine workings (Figure 9 and 10). No additional surface fracturing has been observed. The strata in this area are dry because they lack adequate hydrologic recharge. Therefore, the subsidence will not effect the hydrology.

The mine workings are surrounded by burned coal making it difficult to accurately calculate an angle of draw.


UP&LCO PERMIT BOUNDARY LINE
E 2,110,000
N 378,000
N 379,000
N 378,000
BURNED COAL
BURNED COAL
BURNT COAL
OCT 74
NOV 74
DEC 74
MAY 75
JAN 75
FEB 75
MAR 75
APR 75
MAY 75
FEB 76
MAR 76
APR 76
SEP 76
43
44
45
46
47
7485.38
7484.10
SL-064607
-064621
E 2,111,000
E 2,112,000
N
RECEIVED
JUN 11 1984
DIVISION OF OIL
GAS & MINING
DEER CREEK COAL MINE
EMERY COUNTY, UTAH
1st NORTH
MINE WORKINGS
UTAH POWER & LIGHT COMPANY
DEPARTMENT OF MINING & EXPLORATION
DATE: APR. 12, 1984
BY: LINDA J GUM
SCALE: 1" = 200'
FIGURE 9



RECEIVED
JUN 11 1984
DIVISION OF OIL
GAS & MINING

Area 4

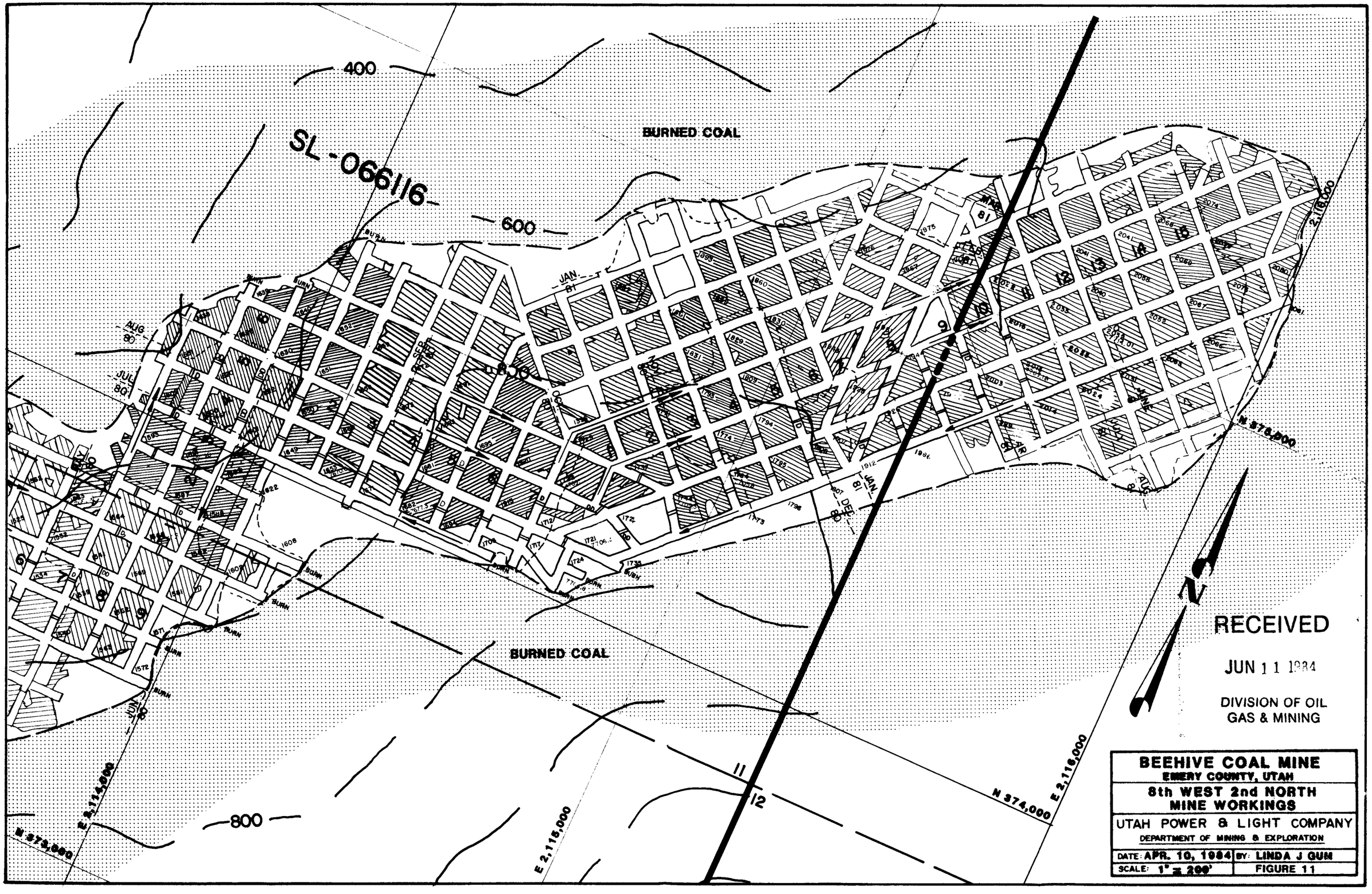
Beehive Mine 8th West Off 2nd North

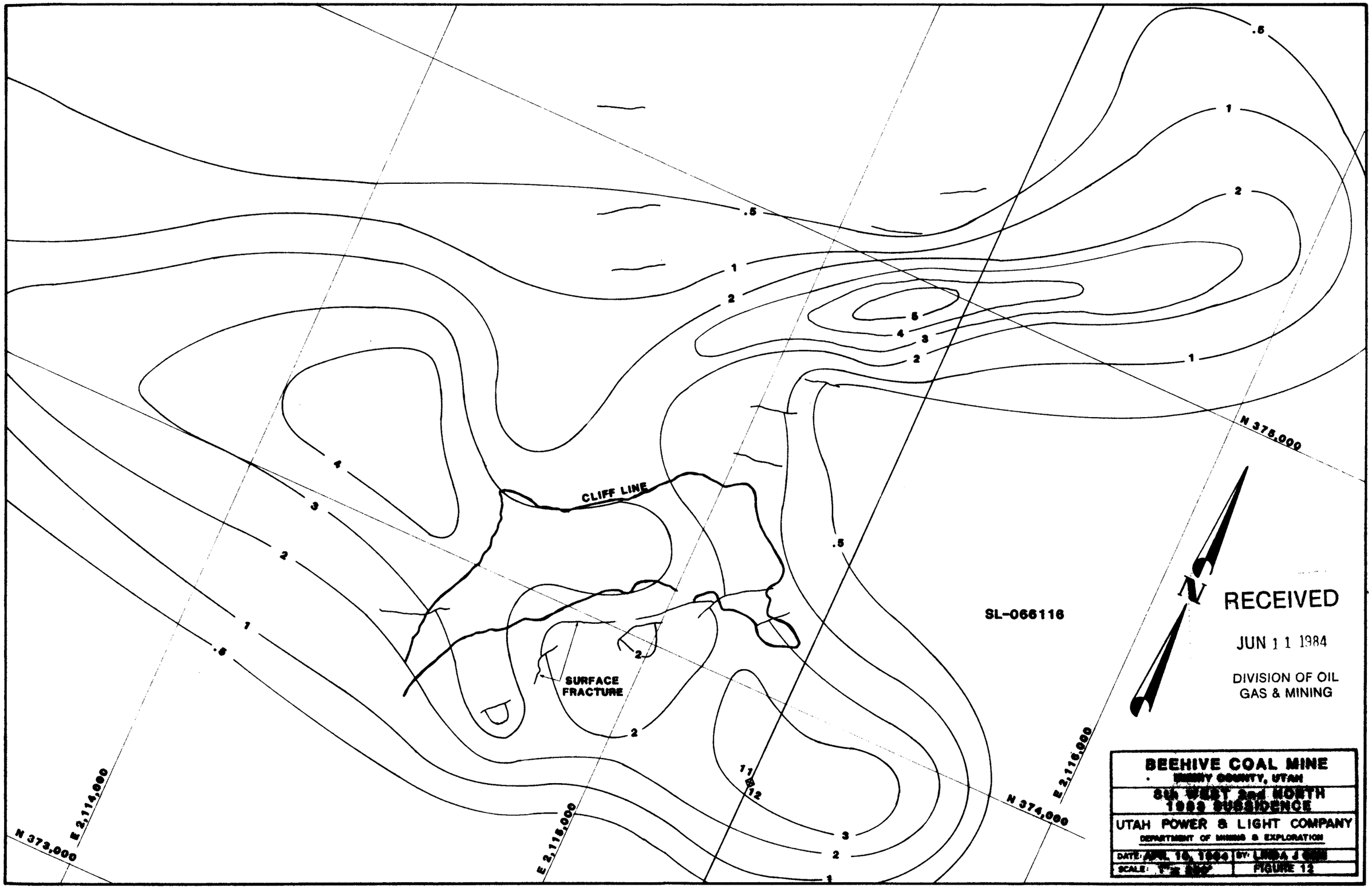
Pillar extraction mining continued through the August 1982 to August 1983 monitoring period in the 8th West section of the Beehive Mine. The area of pillar extraction was surrounded by burned coal (Figure 11).

In August 1981, a maximum of 3 feet of subsidence was measured over these workings. During the period from August 1981 to August 1982 no additional drop was noted and it appeared that the area had stabilized, even though pillar extraction was continuing. However, as of August 1983, 2 additional feet of subsidence over the previous year was measured for a total maximum subsidence of 5 feet (Figure 12).

In general, the subsidence in this section is located directly over the abandoned workings except for an area to the south which has dropped up to three feet; probably due to crushing of clinker beds. In the northeastern portion of the area the subsidence is confined to a narrow belt well within the mined zone even though the workings are surrounded by burned coal. It is likely that the subsidence in this area has not yet stabilized and will continue to spread in the next few years to come. Because of this, it is not possible to calculate a reliable angle of draw.

The strata in this area lack adequate recharge and are dry.


400
600
800
SL-066116
BURNED COAL
BURNED COAL
BURN
AUG 80
JUL 80
JUN 80
JAN 81
DEC 81
N 378,000
N 374,000
N 372,000
E 2,116,000
E 2,115,000
E 2,114,000
11
12
RECEIVED
JUN 11 1984
DIVISION OF OIL
GAS & MINING
BEEHIVE COAL MINE
EMERY COUNTY, UTAH
8th WEST 2nd NORTH
MINE WORKINGS
UTAH POWER & LIGHT COMPANY
DEPARTMENT OF MINING & EXPLORATION
DATE: APR. 10, 1984
BY: LINDA J GUM
SCALE: 1" = 200'
FIGURE 11


.5
1
2
5
4
3
2
1
.5
1
2
4
3
2
1
.5
CLIFF LINE
SURFACE FRACTURE
2
2
11
12
3
2
1
.5
N 375,000
N 374,000
N 373,000
E 2,114,000
E 2,115,000
E 2,116,000
SL-066116
N
RECEIVED
JUN 11 1984
DIVISION OF OIL GAS & MINING
BEEHIVE COAL MINE
EMERY COUNTY, UTAH
6th WEST 2nd NORTH
1983 SUBSIDENCE
UTAH POWER & LIGHT COMPANY
DEPARTMENT OF MINING & EXPLORATION
DATE: APR. 16, 1984
BY: LINDA J
SCALE:
FIGURE 12

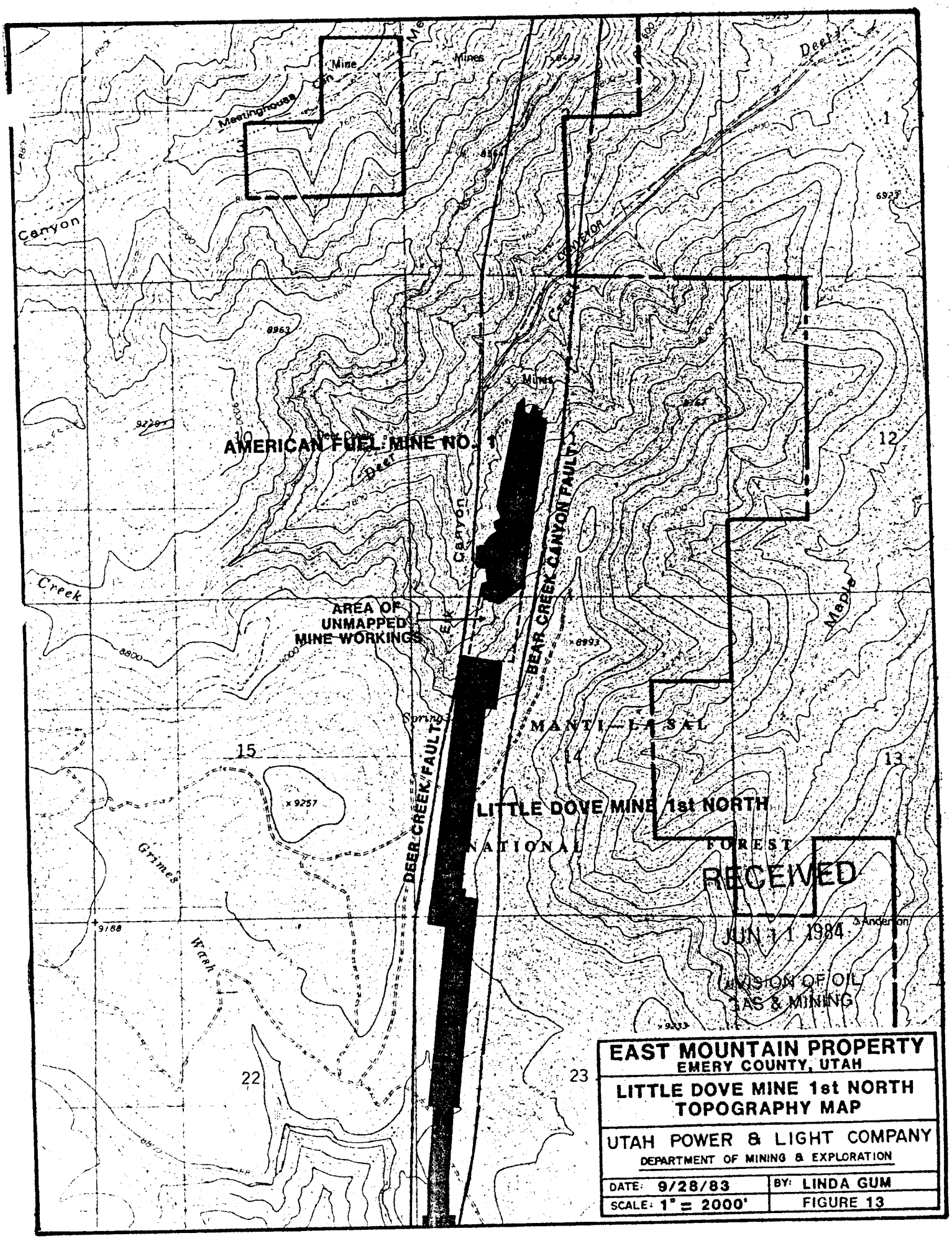
Areas 5 and 6

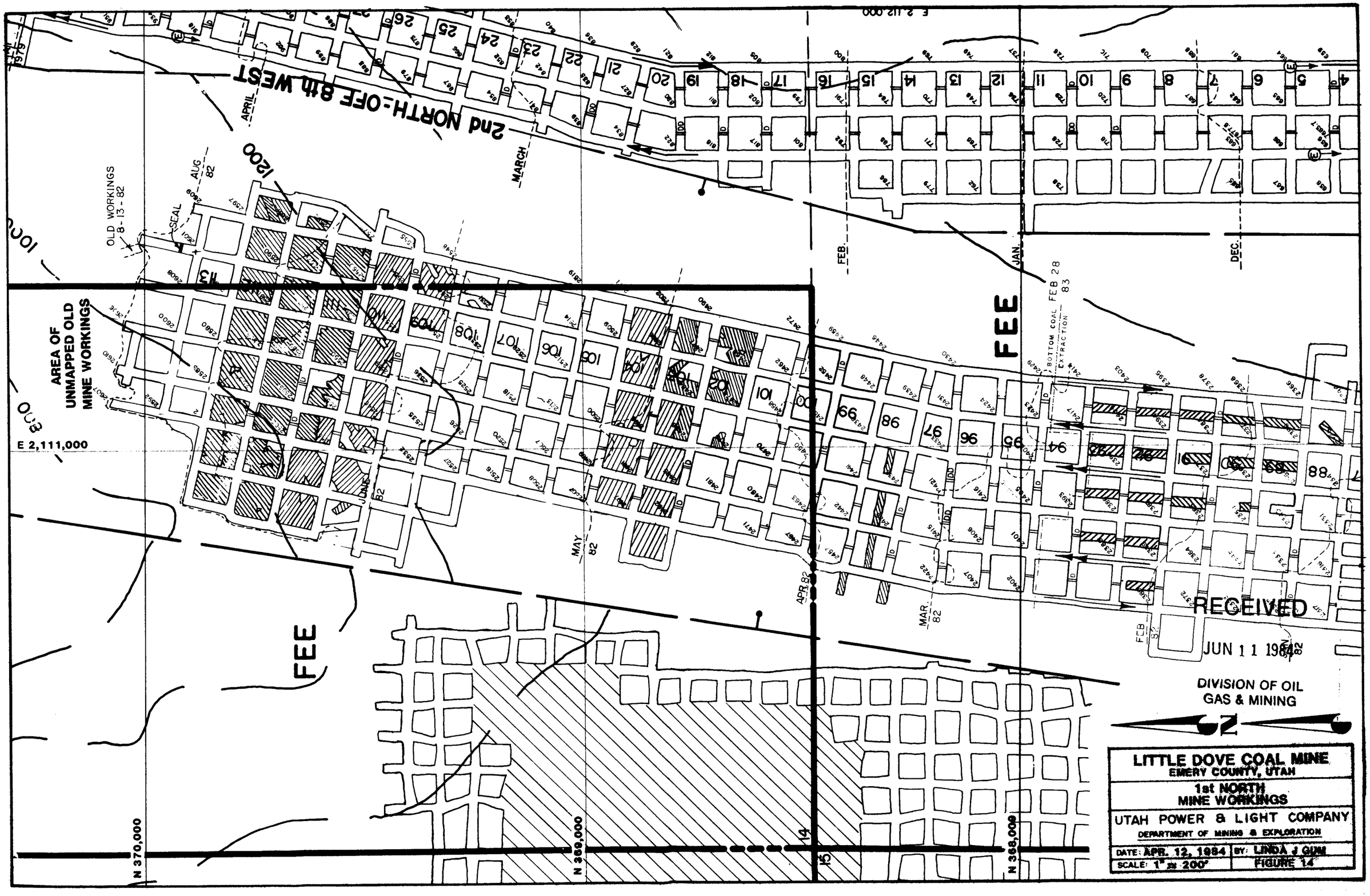
Little Dove 1st North - Old American Fuels Mine

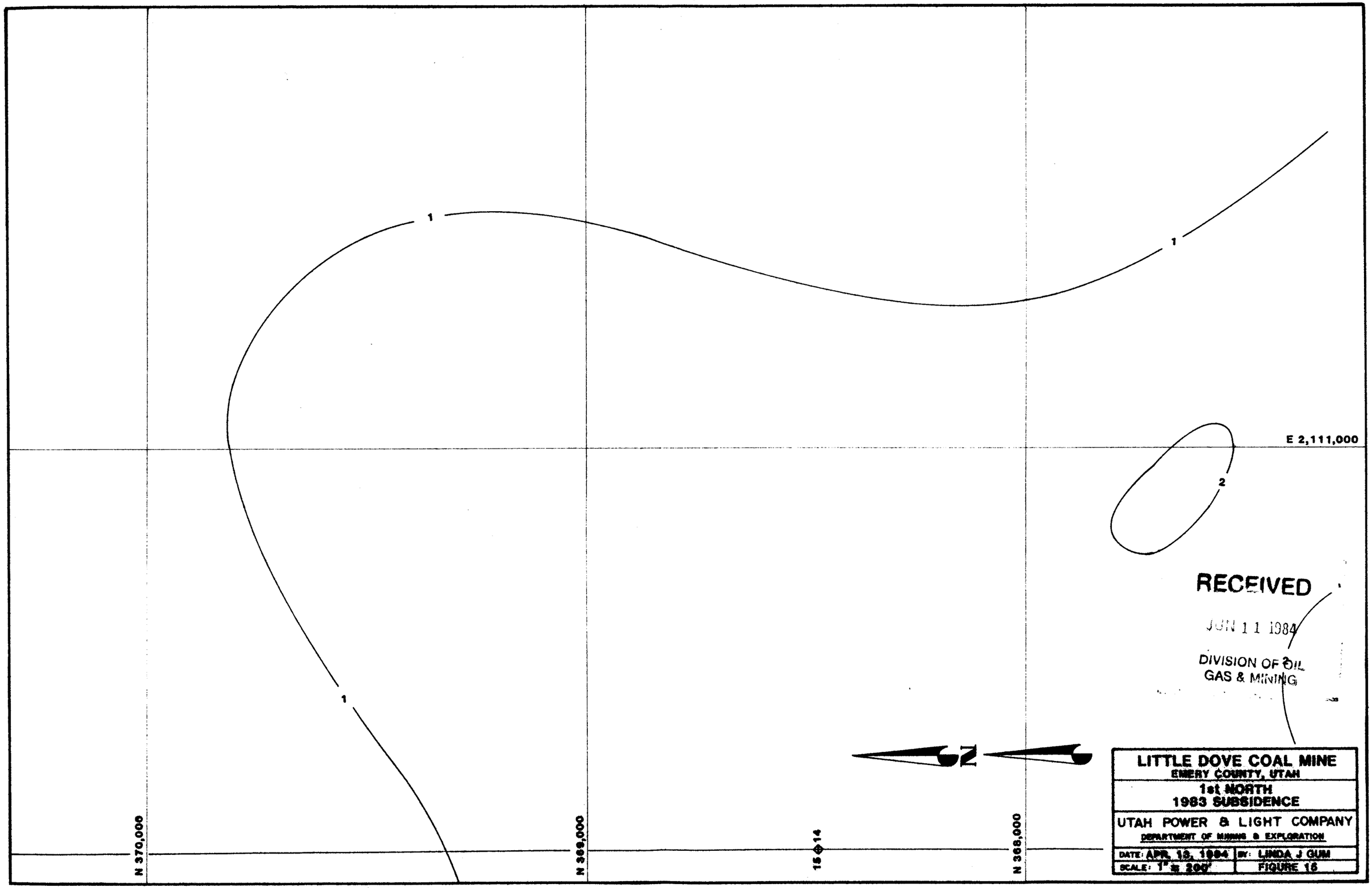
The Little Dove Mine and old American Fuel Mine are both located in a graben formed by the Deer Creek and Bear Creek Canyon Faults (see Figure 13). In August of 1982 the 1st North section of the Little Dove Mine intersected the old American Fuel Mine workings about 1,000 feet south of where available maps had indicated that they extend. Mining conditions in that area of Little Dove revealed that strata were highly stressed. In some cases pillars were crushed before they could be extracted.

Maximum subsidence over the 1st North Little Dove workings reached 2 feet in 1983 over an area of partial pillar extraction (compare Figures 14 and 15).

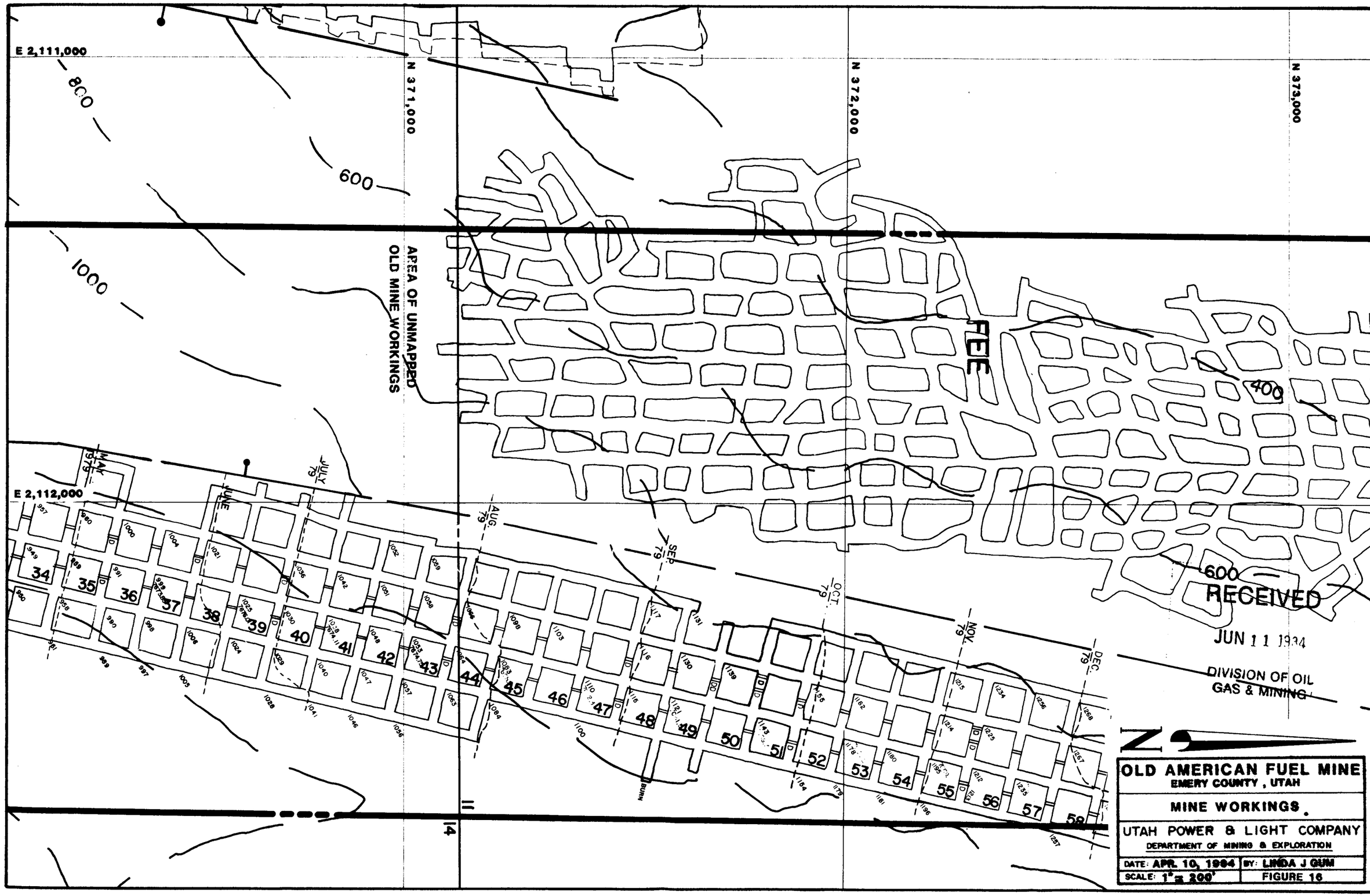
Over the old American Fuel Mine workings subsidence continued in an area where surface fractures were discovered in 1982. These fractures trend in a northeast direction; the largest marks the surface trace of the Bear Creek Canyon Fault. Maximum subsidence over this section has reached .4 feet as of August 1983. On the east side of the area of subsidence the angle of draw has been calculated to be 7°. On the west side of 1st North workings, mining in the Deer Creek Mine has taken place making it difficult to ascertain the angle of draw. This subsidence has not affected the hydrology of the area in any way.

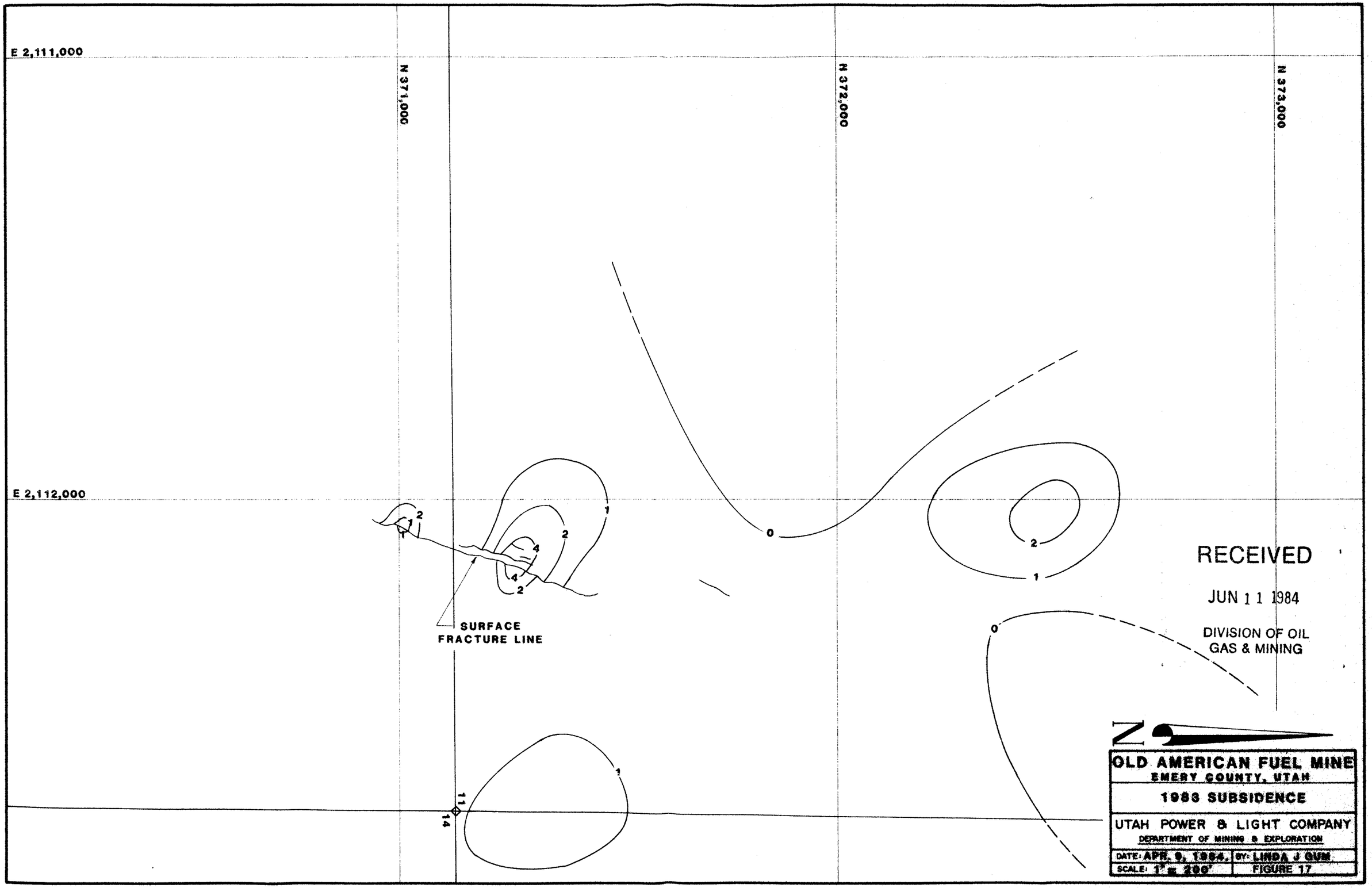

AMERICAN FUEL MINE NO. 1
AREA OF UNMAPPED MINE WORKINGS
LITTLE DOVE MINE 1st NORTH
BEAR CREEK CANYON FAULT
DEER CREEK FAULT
MANTI-LA SAL
NATIONAL FOREST
Meetinghouse
Canyon
Deer
Creek
Maple
Grimes
Wash
Mine
Mines
Spring
Elk
Anderson
RECEIVED
JUN 11 1984
DIVISION OF OIL GAS & MINING
EAST MOUNTAIN PROPERTY
EMERY COUNTY, UTAH
LITTLE DOVE MINE 1st NORTH
TOPOGRAPHY MAP
UTAH POWER & LIGHT COMPANY
DEPARTMENT OF MINING & EXPLORATION
DATE: 9/28/83
BY: LINDA GUM
SCALE: 1" = 2000'
FIGURE 13


2nd NORTH-OFF 8th WEST
APRIL
MARCH
FEB.
JAN.
DEC.
OLD WORKINGS
8-13-82
SEAL
AUG. 82
1200
AREA OF
UNMAPPED OLD
MINE WORKINGS
E 2,111,000
FEE
BOTTOM COAL EXTRACTION
FEB 28 83
JUNE 82
MAY 82
APR 82
MAR. 82
FEB. 82
JAN. 82
FEE
N 370,000
N 369,000
N 368,000
14
15
REGEIVED
JUN 11 1984
DIVISION OF OIL
GAS & MINING
LITTLE DOVE COAL MINE
EMERY COUNTY, UTAH
1st NORTH
MINE WORKINGS
UTAH POWER & LIGHT COMPANY
DEPARTMENT OF MINING & EXPLORATION
DATE: APR. 12, 1984
BY: LINDA J GUM
SCALE: 1" = 200'
FIGURE 14

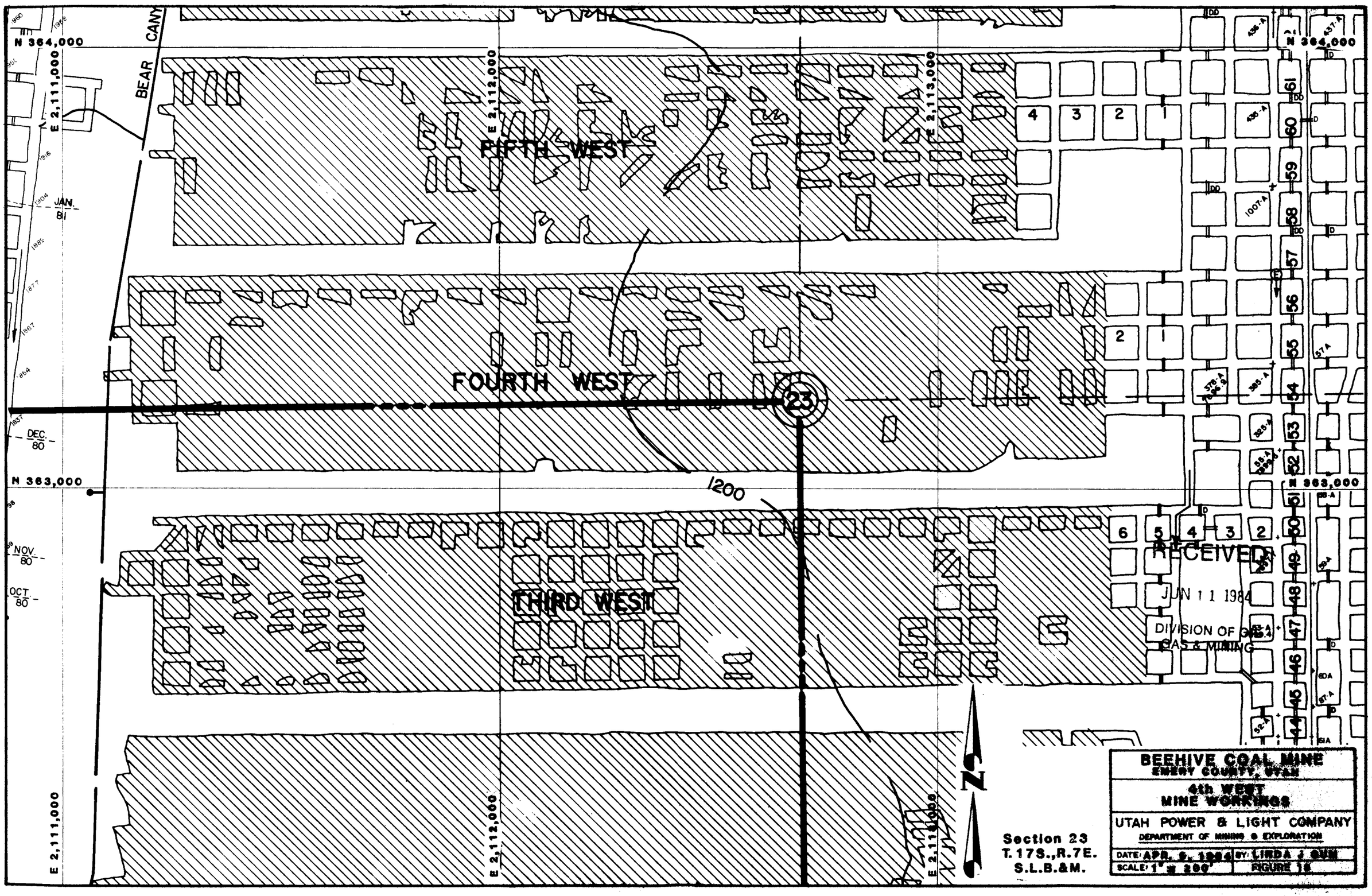


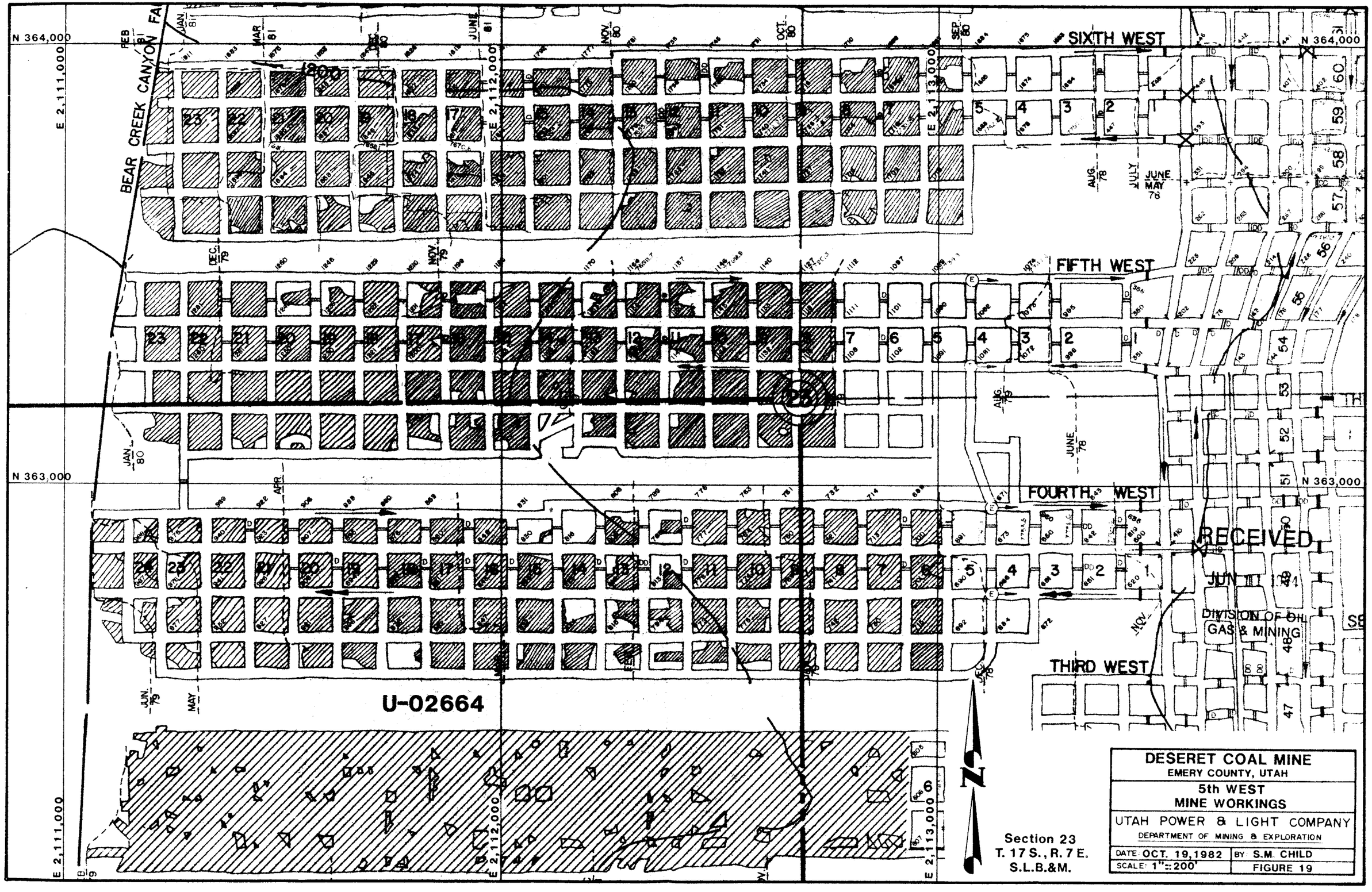
RECEIVED
JUN 11 1984
DIVISION OF OIL
GAS & MINING

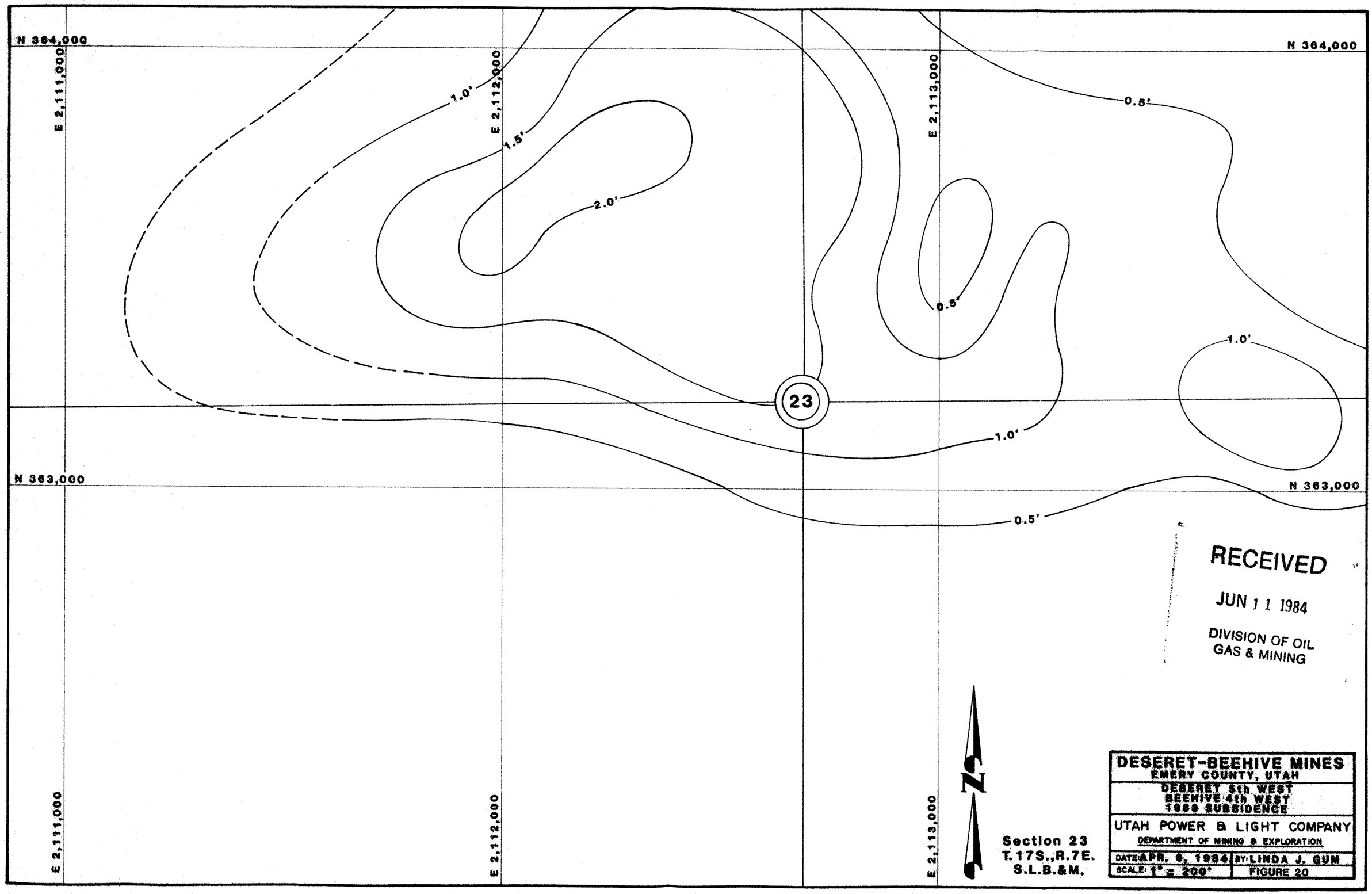

E 2,111,000
E 2,112,000
N 371,000
N 372,000
N 373,000
800
600
1000
400
600
AREA OF UNMAPPED
OLD MINE WORKINGS
FEE
MAY 79
JUNE
JULY 79
AUG. 79
SEP. 79
OCT. 79
NOV. 79
DEC. 79
BURN
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
14
RECEIVED
JUN 11 1984
DIVISION OF OIL
GAS & MINING
OLD AMERICAN FUEL MINE
EMERY COUNTY, UTAH
MINE WORKINGS.
UTAH POWER & LIGHT COMPANY
DEPARTMENT OF MINING & EXPLORATION
DATE: APR. 10, 1984
BY: LINDA J GUM
SCALE: 1" = 200'
FIGURE 16



RECEIVED
JUN 11 1984
DIVISION OF OIL
GAS & MINING


N 364,000
E 2,111,000
BEAR CANY
E 2,112,000
E 2,113,000
FIFTH WEST
FOURTH WEST
THIRD WEST
JAN. 81
DEC. 80
NOV. 80
OCT. 80
N 363,000
1200
23
N
Section 23
T.17S.,R.7E.
S.L.B.&M.
RECEIVED
JUN 11 1984
DIVISION OF OIL
GAS & MINING
BEEHIVE COAL MINE
EMERY COUNTY, UTAH
4th WEST
MINE WORKINGS
UTAH POWER & LIGHT COMPANY
DEPARTMENT OF MINING & EXPLORATION
DATE: APR. 5, 1984
BY: LINDA J. SUM
SCALE: 1" = 200'
FIGURE 18


N 364,000
N 363,000
E 2,111,000
E 2,112,000
E 2,113,000
SIXTH WEST
FIFTH WEST
FOURTH WEST
THIRD WEST
BEAR CREEK CANYON FA
U-02664
RECEIVED
JUN 1984
DIVISION OF OIL GAS & MINING
Section 23
T. 17 S., R. 7 E.
S.L.B.&M.
DESERET COAL MINE
EMERY COUNTY, UTAH
5th WEST
MINE WORKINGS
UTAH POWER & LIGHT COMPANY
DEPARTMENT OF MINING & EXPLORATION
DATE: OCT. 19, 1982
BY: S.M. CHILD
SCALE: 1" = 200'
FIGURE 19



RECEIVED
JUN 11 1984
DIVISION OF OIL
GAS & MINING

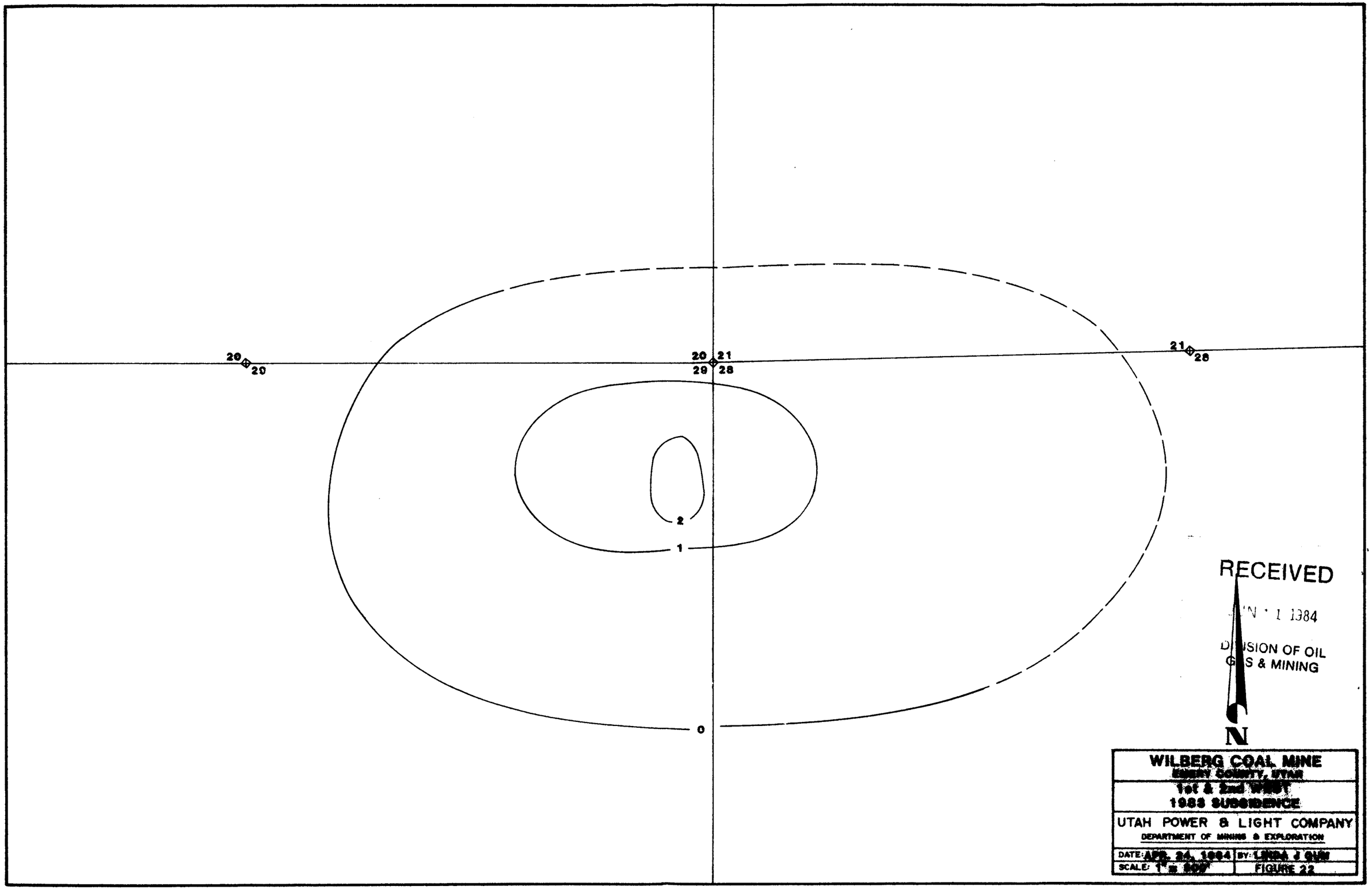
Area 8

Wilberg - 1st and 2nd West Longwall Panels

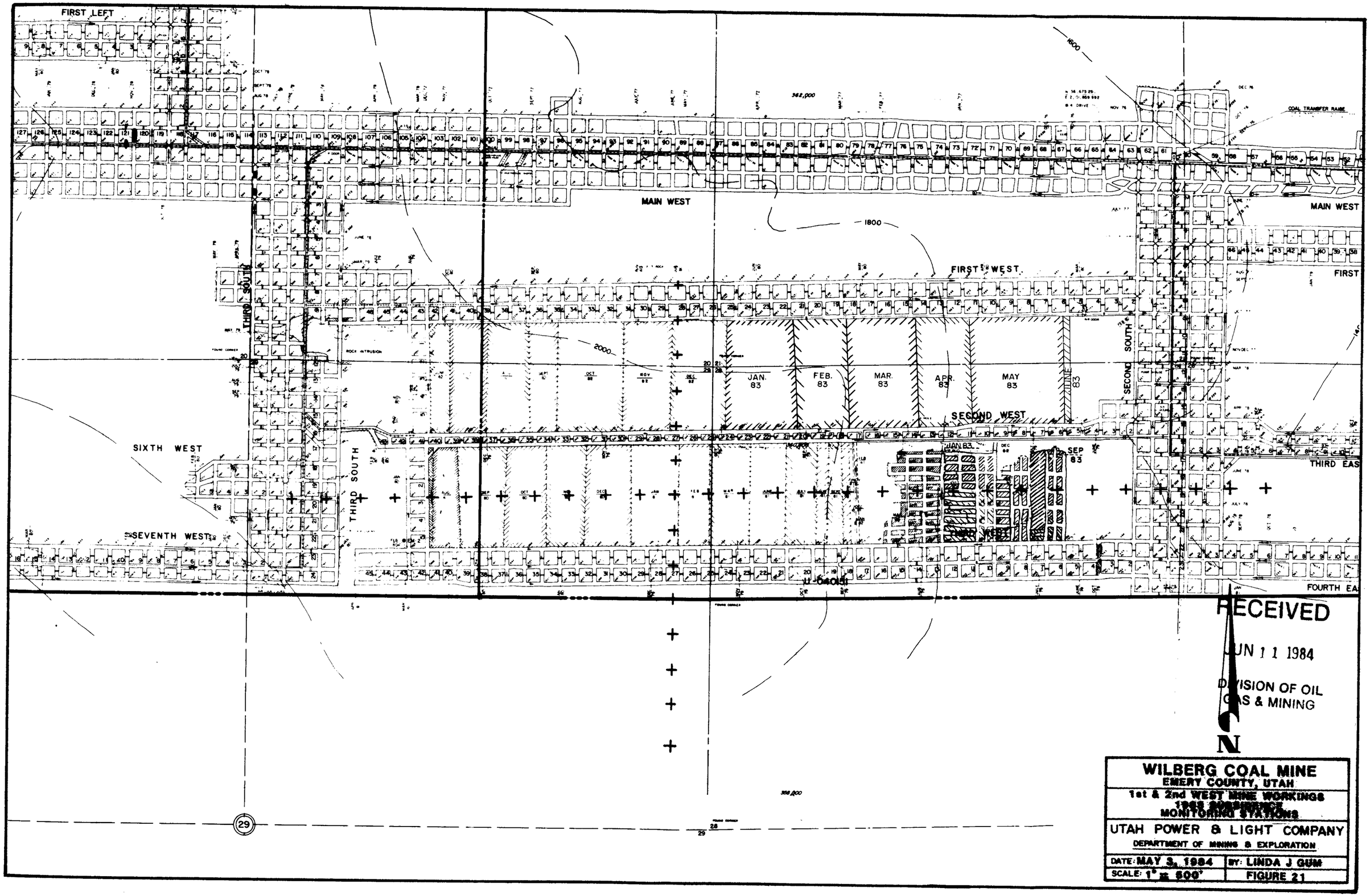
The Bureau of Mines monitoring of a system of surface monuments revealed subsidence over the Wilberg 1st and 2nd West longwall panels during the monitoring period (Figure 21). Mining in these two panels was completed by early June 1983. The panels are overlain by 1,700 to 2,000 feet of overburden with topography ranging from fairly steep pine covered slopes to the flat sagebrush covered mountain top.

Maximum subsidence measured was 2.5 feet (Figure 22). No surface fractures or other visible disturbance have been found. On the south side of the area the subsidence diminishes to less than 0.5 feet within 100 feet south of the longwall panels. With 2100 feet of overburden, this equates to an angle of draw of 3°.

Four springs located just north of this area show no effect from the subsidence.



RECEIVED
JUN 1 1984
DIVISION OF OIL
GAS & MINING


FIRST LEFT
MAIN WEST
MAIN WEST
FIRST WEST
FIRST
SECOND WEST
SECOND SOUTH
THIRD SOUTH
THIRD SOUTH
SIXTH WEST
SEVENTH WEST
THIRD EAS
FOURTH EA
COAL TRANSFER RAISE
ROCK INTRUSION
JAN. 83
FEB. 83
MAR. 83
APR. 83
MAY 83
JUNE 83
SEP 83
1800
2000
RECEIVED
JUN 11 1984
DIVISION OF OIL
GAS & MINING
N
WILBERG COAL MINE
EMERY COUNTY, UTAH
1st & 2nd WEST MINE WORKINGS
1983 SUBSIDENCE
MONITORING STATIONS
UTAH POWER & LIGHT COMPANY
DEPARTMENT OF MINING & EXPLORATION
DATE: MAY 3, 1984
BY: LINDA J GUM
SCALE: 1" = 500'
FIGURE 21

Other Studied Areas

No surface disturbance or subsidence was observed over any other areas studied for subsidence on East Mountain during the period from August 1982 to August 1983 (Areas 9, 10 and 11; Figure 2).

Summary

As of August 1983, UP&L has identified eight areas of mining induced subsidence on the East Mountain property. Terrain in the subsidence areas ranges from relatively flat mountain tops with thick overburden of up to 2,100 feet; to steep slopes and cliffs with overburden of less than 200 feet. The most noticeable subsidence occurs in these steep cliff areas where mining next to burned coal appears to have caused crushing of the clinker beds. Most of the fractures observed over mined areas of East Mountain have occurred under these conditions; the exceptions being fractures which are reactivated surface traces of the Bear Creek Canyon or Deer Creek Faults.

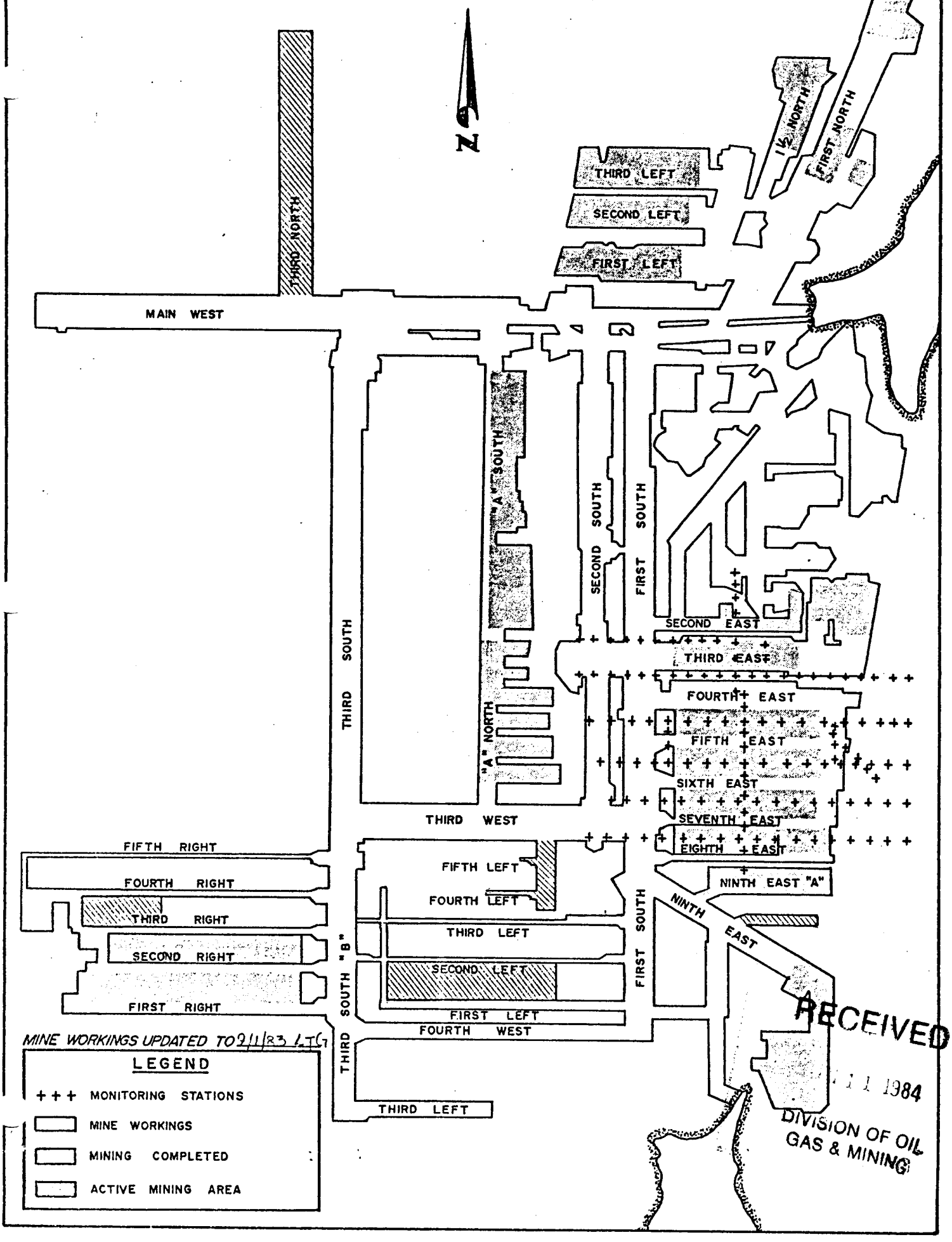
In areas of thicker overburden, longwall and room-and-pillar mining methods have allowed the multiple seam mining of large quantities of coal without apparent impact on the environment. Such areas as the Beehive 4th West - Deseret 5th West sections and the Deer Creek 4th through 7th East - Wilberg 10th and 11th Right longwall panels have demonstrated that subsidence can occur over a broad area with no visual or hydrologic effects. In excess of 80% of the East Mountain property has conditions similar to these areas. It is, therefore, felt that the mining methods being utilized are well suited to the geologic conditions, allowing subsidence to occur without impacting the hydrology or present land use of the area.

APPENDIX

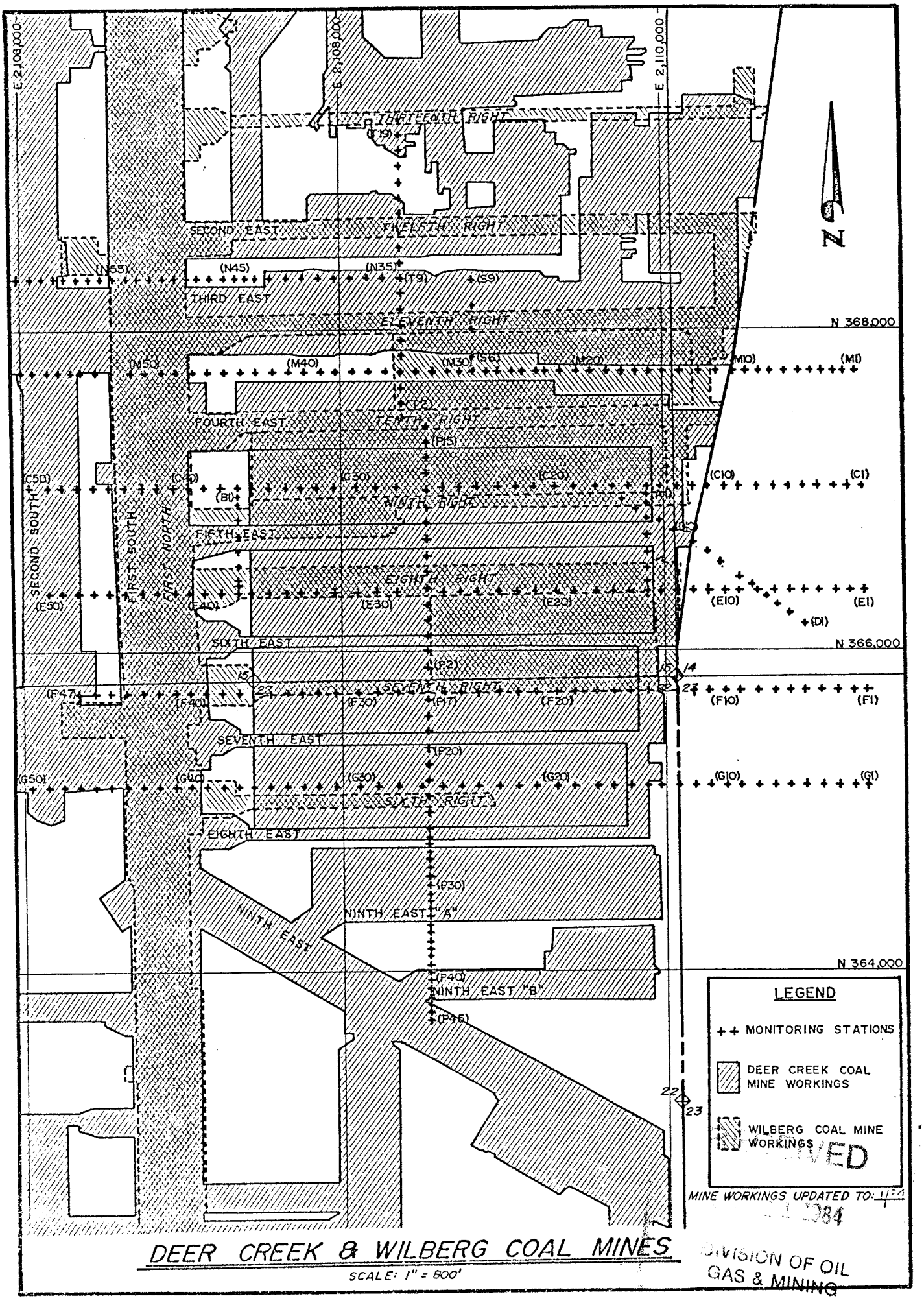
DEER CREEK MINE

DEER CREEK COAL MINE

SCALE: 1" = 2000'



RECEIVED
1984
DIVISION OF OIL GAS & MINING



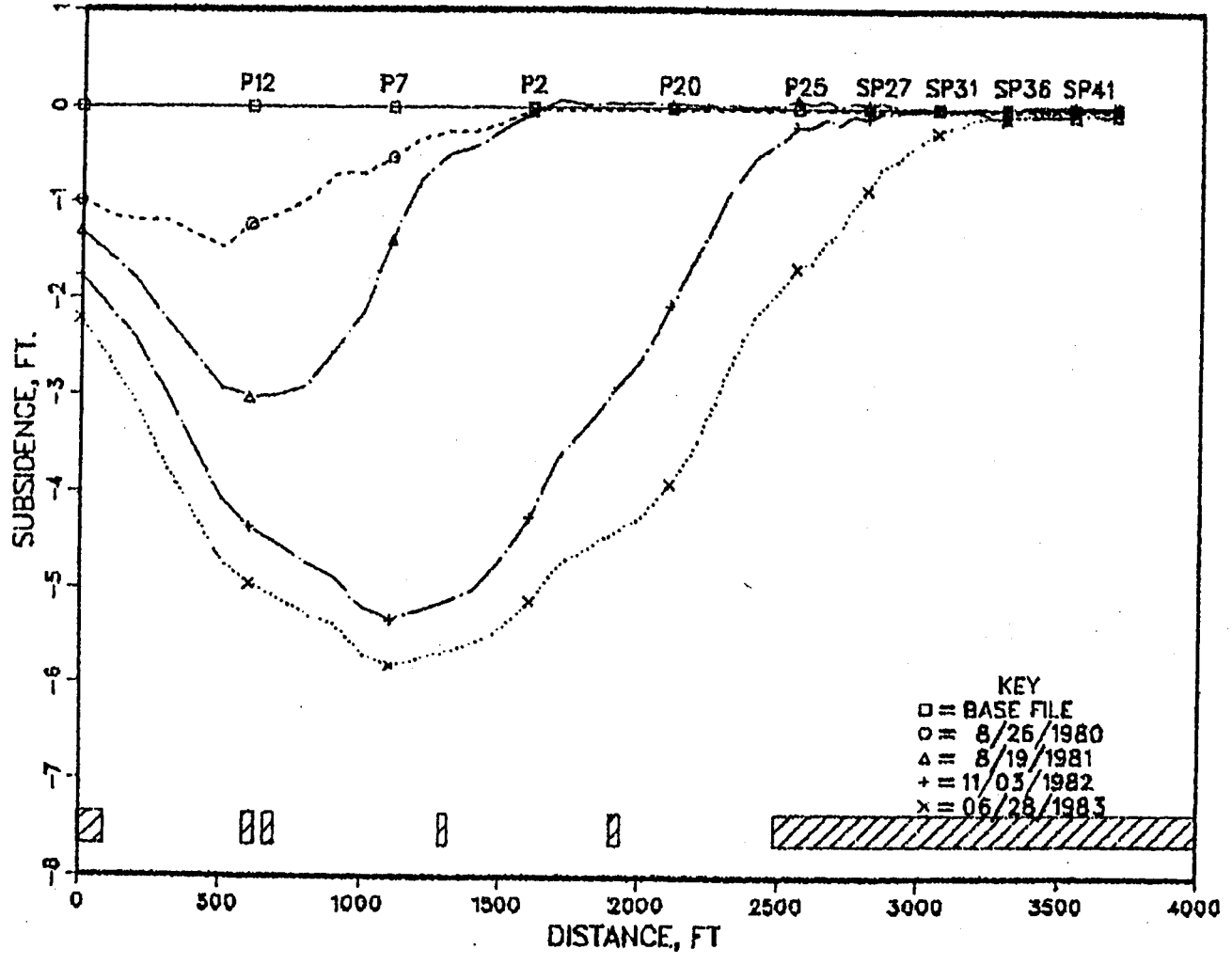
DEER CREEK & WILBERG COAL MINES

SCALE: 1" = 800'

RECEIVED
1984
DIVISION OF OIL
GAS & MINING

DEER CREEK MINE

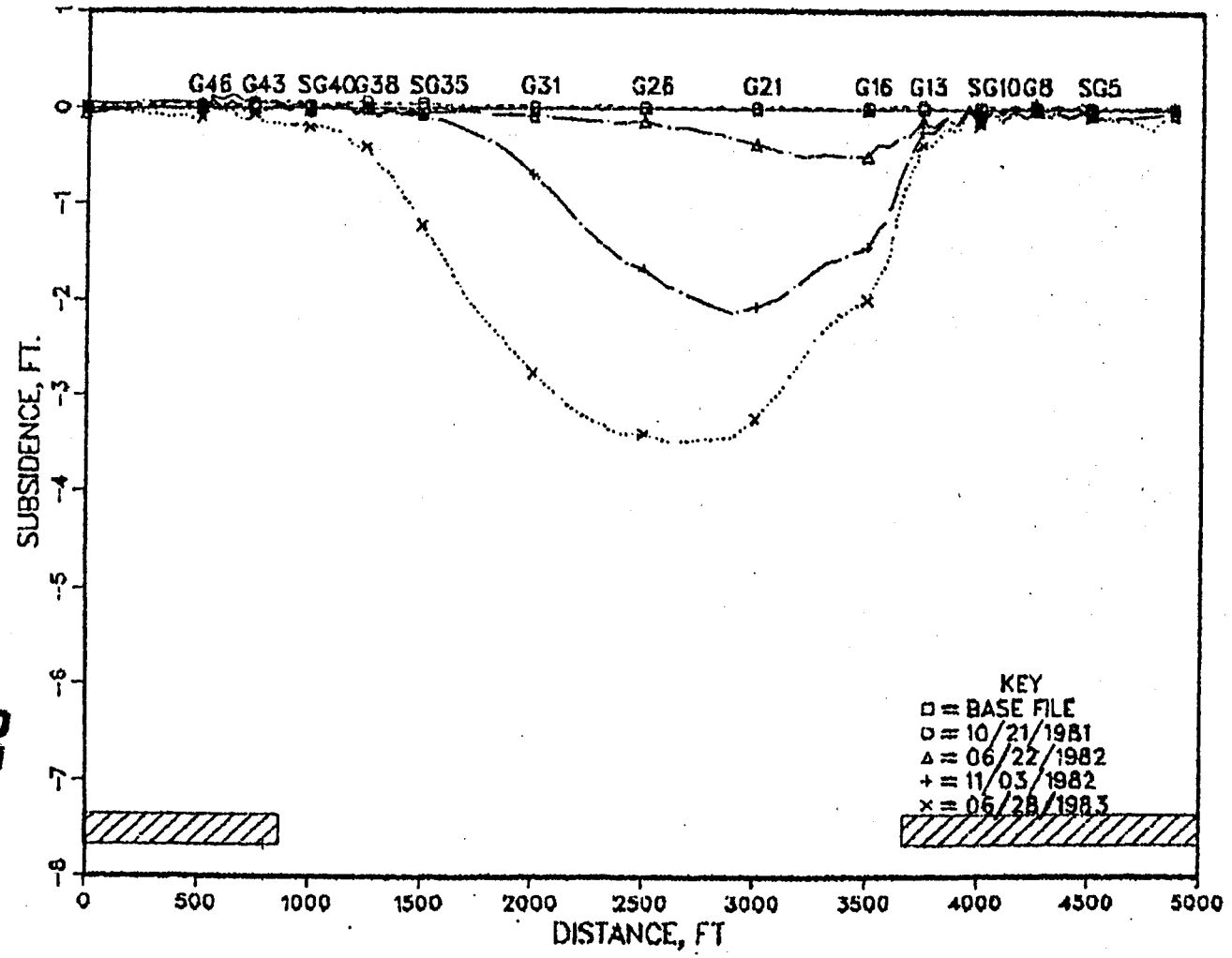
PROGRESSIVE PLOT OF P-LINE



RECEIVED
1984
DIVISION OF OIL
GAS & MINING

DEER CREEK MINE

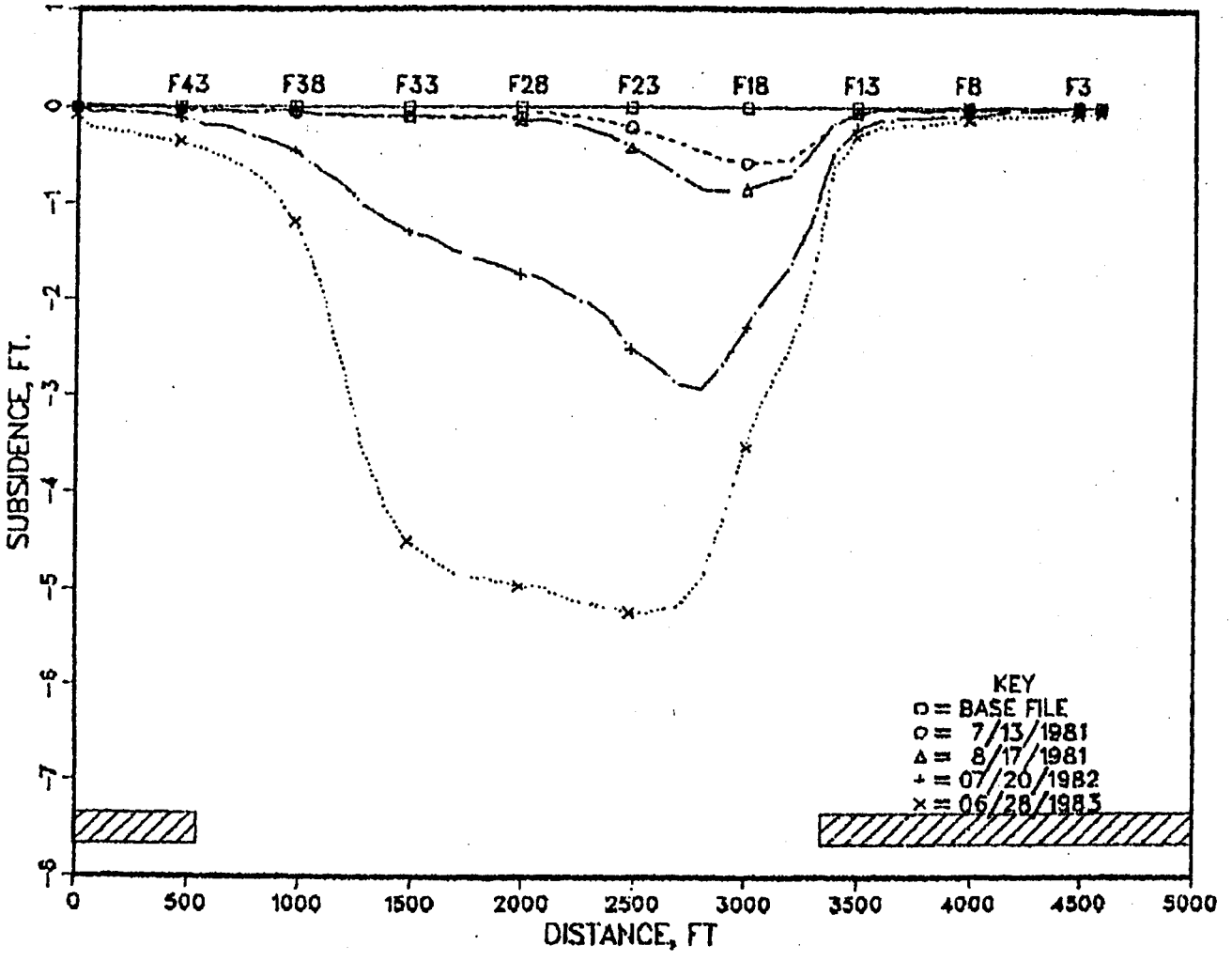
PROGRESSIVE PLOT OF G-LINE



RECEIVED
JUN 11 1984
DIVISION OF OIL
GAS & MINING

DEER CREEK MINE

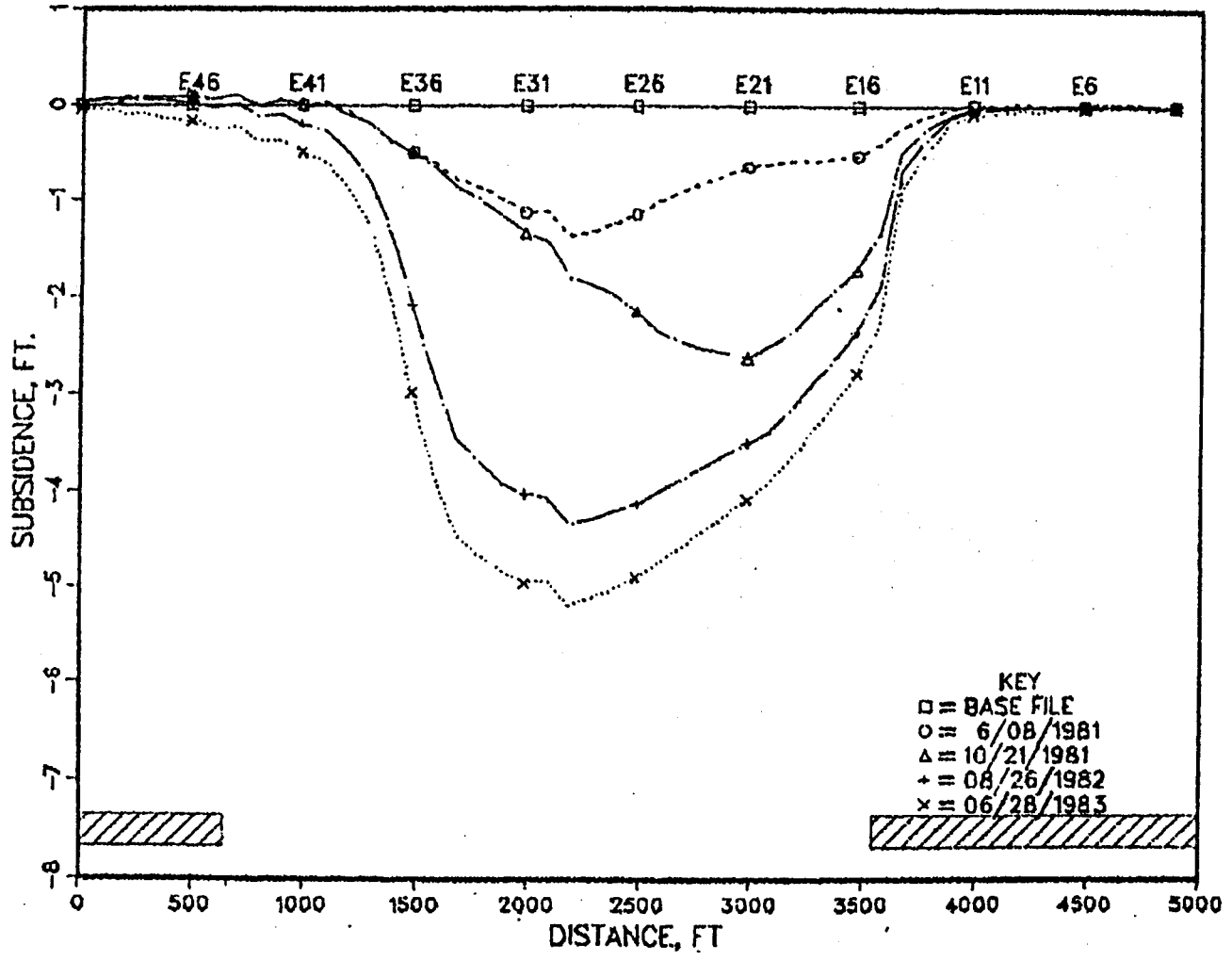
PROGRESSIVE PLOT OF F-LINE



RECEIVED
JAN 11 1984
DIVISION OF OIL
GAS & MINING

DEER CREEK MINE

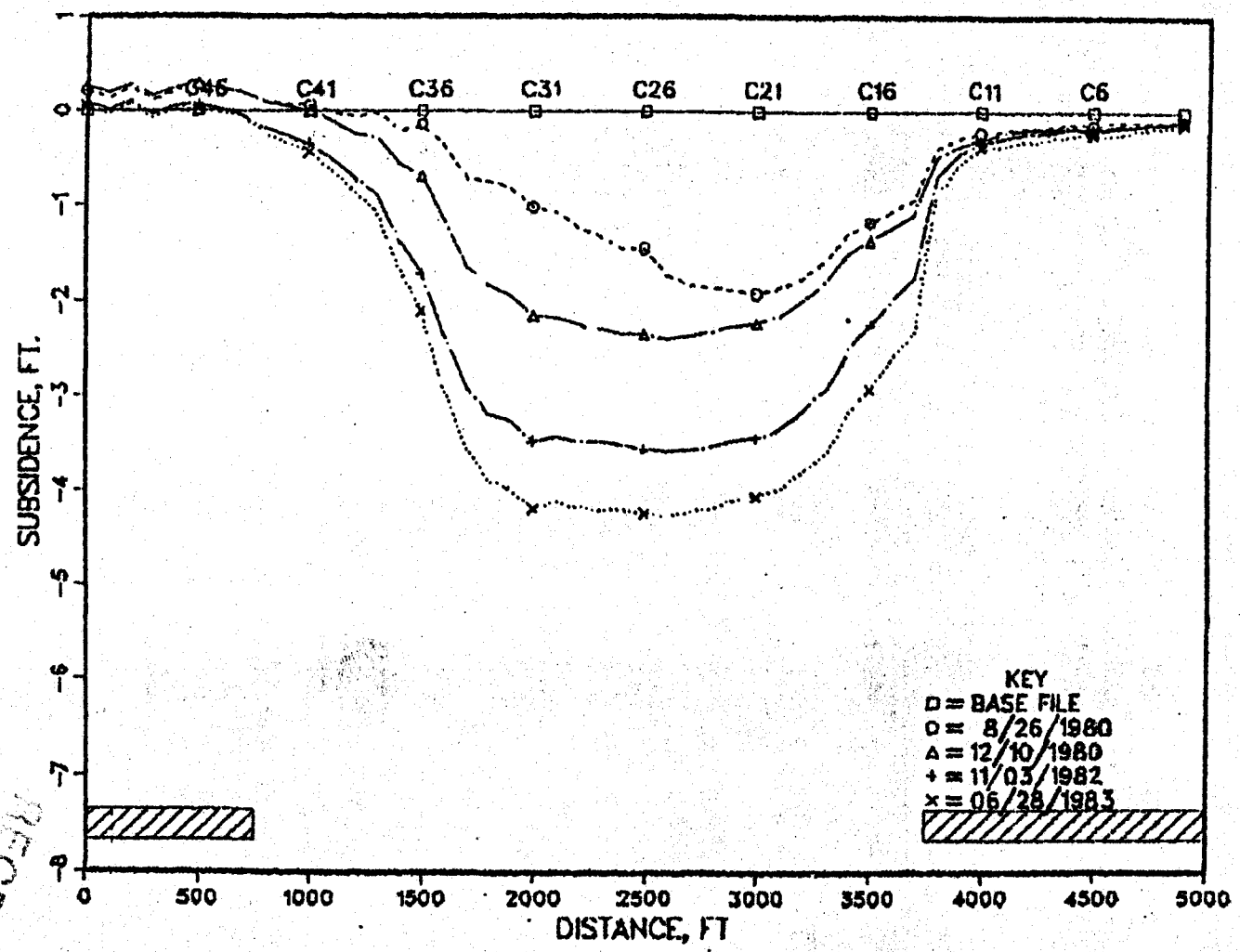
PROGRESSIVE PLOT OF E-LINE



RECEIVED
JUN 11 1984
DIVISION OF OIL
GAS & MINING

DEER CREEK MINE

PROGRESSIVE PLOT OF C-LINE



RECEIVED
JUN 11 1984
DIVISION OF OIL
GAS & MINING

DEER CREEK SUBSIDENCE PROJECT LISTING OF ELEVATION

BASE DATE DIFFERENCES BY DATES :

STATION NAME	BASE FILE	12/10/1980 J + T : L	6/08/1981 J + T : L	7/13/1981 J + T : L	8/19/1981 USBM : L	8/17/1981 J + T : L	9/14/1981 J + T : L	10/21/1981 J + T : L
DC1	8994.68	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
DC2	8955.53	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
BM1	9025.91	0.00	0.00	0.00	. . . .	0.00	0.00	-0.00
BM2	9159.51	0.45	0.64	0.71	0.78	0.87	1.13	1.49
BM3	9188.67	2.30	. . . .	. . . .	2.72	. . . .	. . . .	. . . .
BM4	9104.14	0.00	0.00	0.00	. . . .	0.00	0.00	. . . .
BM5	9096.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BM6	8943.36	. . . .	. . . .	0.05	. . . .	0.07	0.09	0.04
BM7	9106.90	. . . .	0.00	0.00	. . . .	0.00	0.00	. . . .
BM8	8980.15	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
BM9	8961.81	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
BM10	9067.32	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
NCP0	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
NCP1	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
NCP2	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
NCP3	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
NCP4	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
NCP5	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
NCP6	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
NCP7	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
NCP8	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
NCP9	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
C1	8998.65	0.10	0.09	. . . .	. . . .	. . . .	. . . .	. . . .
C2	8988.15	0.13	0.10	. . . .	. . . .	. . . .	. . . .	. . . .
C3	8978.20	0.15	0.13	. . . .	. . . .	. . . .	. . . .	. . . .
C4	8971.85	0.15	0.12	. . . .	. . . .	. . . .	. . . .	. . . .
C5	8970.99	0.18	0.17	. . . .	0.17	. . . .	. . . .	. . . .
C6	8976.02	0.16	0.14	. . . .	0.14	. . . .	. . . .	. . . .
C7	8984.61	0.19	0.18	. . . .	0.18	. . . .	. . . .	. . . .
C8	8990.13	0.18	0.19	. . . .	0.19	. . . .	. . . .	. . . .
C9	8993.46	0.23	0.22	. . . .	0.23	. . . .	. . . .	. . . .
C10	8997.67	0.30	0.25	. . . .	0.29	. . . .	. . . .	. . . .
C11	9001.98	0.36	0.33	. . . .	0.37	. . . .	. . . .	. . . .
C12	9008.04	0.48	0.49	. . . .	0.55	. . . .	. . . .	. . . .
C13	9017.60	1.07	1.16	. . . .	1.27	. . . .	. . . .	. . . .
C14	9030.62	1.22	1.28	. . . .	1.44	. . . .	. . . .	. . . .
C15	9054.08	1.35	1.47	. . . .	1.58	. . . .	. . . .	. . . .
C16	9076.04	1.50	1.64	. . . .	1.77	. . . .	. . . .	. . . .
C17	9096.46	1.78	1.96	. . . .	2.10	. . . .	. . . .	. . . .
C18	9120.88	1.98	2.16	. . . .	2.32	. . . .	. . . .	. . . .

DEER CREEK SUBSIDENCE PROJECT LISTING OF ELEVATION

STATION NAME	BASE DATE BASE FILE	DIFFERENCES BY DATES : 12/10/1980 J + T : L	6/08/1981 J + T : L	7/13/1981 J + T : L	8/19/1981 USBM : L	8/17/1981 J + T : L	9/14/1981 J + T : L	10/21/1981 J + T : L
C19	9137.26	2.14	2.33	. . . .	2.48	. . . .	. . . .	. . . .
C20	9152.74	2.22	2.42	. . . .	2.57	. . . .	. . . .	. . . .
C21	9166.18	2.25	2.48	. . . .	2.58	. . . .	. . . .	. . . .
C22	9173.53	2.32	2.55	. . . .	2.63	. . . .	. . . .	. . . .
C23	9175.25	2.36	2.59	. . . .	2.67	. . . .	. . . .	. . . .
C24	9170.81	2.39	2.64	. . . .	2.68	. . . .	. . . .	. . . .
C25	9170.54	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
C26	9181.64	2.33	2.56	. . . .	2.64	. . . .	. . . .	. . . .
C27	9188.24	2.29	2.56	. . . .	2.56	. . . .	. . . .	. . . .
C28	9187.66	2.24	2.54	. . . .	2.53	. . . .	. . . .	. . . .
C29	9189.62	2.15	2.47	. . . .	2.46	. . . .	. . . .	. . . .
C30	9190.13	2.14	2.49	. . . .	2.46	. . . .	. . . .	. . . .
C31	9193.08	1.92	2.28	. . . .	2.24	. . . .	. . . .	. . . .
C32	9188.37	1.81	2.19	. . . .	2.14	. . . .	. . . .	. . . .
C33	9187.61	1.63	2.01	. . . .	1.93	. . . .	. . . .	. . . .
C34	9183.94	1.12	1.48	. . . .	1.42	. . . .	. . . .	. . . .
C35	9179.18	0.69	1.01	. . . .	0.94	. . . .	. . . .	. . . .
C36	9178.90	0.57	0.88	. . . .	0.77	. . . .	. . . .	. . . .
C37	9178.13	0.28	0.53	. . . .	0.42	. . . .	. . . .	. . . .
C38	9175.22	0.24	0.44	. . . .	0.33	. . . .	. . . .	. . . .
C39	9170.81	0.12	0.31	. . . .	0.19	. . . .	. . . .	. . . .
C40	9162.20	0.01	0.18	. . . .	0.06	. . . .	. . . .	. . . .
C41	9148.84	-0.04	0.13	. . . .	0.01	. . . .	. . . .	. . . .
C42	9135.52	-0.09	0.06	. . . .	-0.05	. . . .	. . . .	. . . .
C43	9125.00	-0.20	-0.04	. . . .	-0.13	. . . .	. . . .	. . . .
C44	9117.09	-0.23	-0.07	. . . .	-0.20	. . . .	. . . .	. . . .
C45	9105.25	-0.29	-0.12	. . . .	-0.25	. . . .	. . . .	. . . .
C46	9084.48	-0.25	-0.11	. . . .	-0.19	. . . .	. . . .	. . . .
C47	9065.21	-0.15	0.02	. . . .	-0.09	. . . .	. . . .	. . . .
C48	9046.81	-0.29	-0.13	. . . .	-0.22	. . . .	. . . .	. . . .
C49	9028.02	-0.19	-0.01	. . . .	-0.12	. . . .	. . . .	. . . .
C50	9004.20	-0.27	-0.10	. . . .	-0.20	. . . .	. . . .	. . . .
P16	9203.57	1.21	1.37	. . . .	1.30	. . . .	. . . .	. . . .
P15	9197.23	1.44	1.62	. . . .	1.56	. . . .	. . . .	. . . .
P14	9194.67	1.66	1.87	. . . .	1.82	. . . .	. . . .	. . . .
P13	9191.28	1.99	2.22	. . . .	2.20	. . . .	. . . .	. . . .
P12	9183.72	2.57	2.85	. . . .	2.93	. . . .	. . . .	. . . .
P11	9180.58	2.63	2.93	. . . .	3.03	. . . .	. . . .	. . . .
P10	9176.25	2.57	2.88	. . . .	3.00	. . . .	. . . .	. . . .
P9	9171.03	2.45	2.76	. . . .	2.91	. . . .	. . . .	. . . .

DEER CREEK SUBSIDENCE PROJECT LISTING OF ELEVATION

STATION NAME	BASE DATE BASE FILE	DIFFERENCES BY DATES : 12/10/1980 J + T : L	6/08/1981 J + T : L	7/13/1981 J + T : L	8/19/1981 USBM : L	8/17/1981 J + T : L	9/14/1981 J + T : L	10/21/1981 J + T : L
P8	9165.59	2.06	2.37	2.53	2.55	2.67	2.84	2.95
P7	9160.70	1.64	1.90	2.09	2.13	2.24	2.41	2.57
P6	9159.07	1.02	1.21	1.37	1.38	1.50	1.66	1.86
P5	9160.44	0.52	0.62	0.77	0.76	0.88	1.01	1.20
P4	9157.80	0.34	0.41	0.54	0.50	0.61	0.72	0.86
P3	9154.42	0.26	0.31	0.46	0.40	0.53	0.60	0.71
P2	9151.12	0.14	0.19	0.27	0.22	0.32	0.42	0.51
P1	9143.31	-0.02	0.03	0.13	0.05	0.17	0.22	0.27
P17	9129.72	. . . .	. . . .	-0.01	-0.08	0.03	0.09	0.11
P18	9114.29	. . . .	. . . .	0.00	-0.03	0.06	0.12	0.13
P19	9100.43	. . . .	. . . .	-0.01	-0.05	0.02	0.06	0.05
P20	9089.13	. . . .	. . . .	0.00	-0.04	0.02	0.05	0.02
P21	9074.91	. . . .	. . . .	-0.00	-0.04	0.01	0.03	-0.01
P22	9061.37	. . . .	. . . .	-0.00	-0.03	0.01	0.02	-0.02
P23	9048.42	. . . .	. . . .	-0.00	-0.03	0.01	0.03	-0.03
P24	9042.63	. . . .	. . . .	-0.00	-0.01	0.01	0.04	-0.02
P25	9038.54	. . . .	. . . .	-0.00	-0.03	-0.00	0.01	-0.04
SP25	9039.18	. . . .	. . . .	. . . .	-0.09	. . . .	. . . .	. . . .
P26	9036.75	. . . .	. . . .	-0.01	-0.04	-0.00	0.00	-0.05
SP26	9036.84	. . . .	. . . .	. . . .	-0.08	. . . .	. . . .	. . . .
P27	9035.61	. . . .	. . . .	-0.00	-0.02	0.02	0.03	-0.04
SP27	9033.56	. . . .	. . . .	. . . .	-0.07	. . . .	. . . .	. . . .
P28	9027.03	. . . .	. . . .	-0.00	-0.03	0.01	0.04	-0.04
SP28	9020.71	. . . .	. . . .	. . . .	-0.06	. . . .	. . . .	. . . .
SP29	9014.04	. . . .	. . . .	. . . .	-0.02	. . . .	. . . .	. . . .
SP30	9007.47	. . . .	. . . .	. . . .	-0.01	. . . .	. . . .	. . . .
SP31	9000.30	. . . .	. . . .	. . . .	-0.00	. . . .	. . . .	. . . .
SP32	8991.51	. . . .	. . . .	. . . .	0.01	. . . .	. . . .	. . . .
SP33	8979.06	. . . .	. . . .	. . . .	0.02	. . . .	. . . .	. . . .
SP34	8966.51	. . . .	. . . .	. . . .	0.04	. . . .	. . . .	. . . .
SP35	8954.85	. . . .	. . . .	. . . .	0.02	. . . .	. . . .	. . . .
SP36	8945.07	. . . .	. . . .	. . . .	0.09	. . . .	. . . .	. . . .
SP37	8937.55	. . . .	. . . .	. . . .	0.10	. . . .	. . . .	. . . .
SP38	8932.96	. . . .	. . . .	. . . .	0.08	. . . .	. . . .	. . . .
SP39	8929.45	. . . .	. . . .	. . . .	0.07	. . . .	. . . .	. . . .
SP40	8926.20	. . . .	. . . .	. . . .	0.07	. . . .	. . . .	. . . .
SP41	8923.56	. . . .	. . . .	. . . .	0.07	. . . .	. . . .	. . . .
SP42	8922.57	. . . .	. . . .	. . . .	0.07	. . . .	. . . .	. . . .
SP43	8922.02	. . . .	. . . .	. . . .	0.05	. . . .	. . . .	. . . .
SP44	8921.65	. . . .	. . . .	. . . .	0.07	. . . .	. . . .	. . . .

DEER CREEK SUBSIDENCE PROJECT LISTING OF ELEVATION

STATION NAME	BASE DATE BASE FILE	DIFFERENCES BY DATES : 12/10/1980 J + T : L	6/08/1981 J + T : L	7/13/1981 J + T : L	8/19/1981 USBM : L	8/17/1981 J + T : L	9/14/1981 J + T : L	10/21/1981 J + T : L
SP45	8921.35	. . . .	. . . .	. . . .	0.06	. . . .	. . . .	. . . .
D1	8960.18	-0.11	0.06	. . . .	0.08	. . . .	. . . .	. . . .
D2	8953.04	-0.06	0.11	. . . .	0.13	. . . .	. . . .	. . . .
D3	8949.27	-0.05	0.12	. . . .	0.13	. . . .	. . . .	. . . .
D4	8949.94	-0.04	0.13	. . . .	0.18	. . . .	. . . .	. . . .
D5	8957.29	-0.03	0.15	. . . .	0.18	. . . .	. . . .	. . . .
D6	8967.44	-0.02	0.16	. . . .	0.20	. . . .	. . . .	. . . .
D7	8975.26	-0.03	0.14	. . . .	0.19	. . . .	. . . .	. . . .
D8	8983.90	-0.00	0.19	. . . .	0.24	. . . .	. . . .	. . . .
D9	8990.92	0.14	0.36	. . . .	0.42	. . . .	. . . .	. . . .
D10	8999.20	0.29	0.51	. . . .	0.59	. . . .	. . . .	. . . .
D11	9007.03	0.65	0.92	. . . .	1.06	. . . .	. . . .	. . . .
D12	9016.69	1.07	1.33	. . . .	1.52	. . . .	. . . .	. . . .
D13	9029.19	1.20	1.45	. . . .	1.62	. . . .	. . . .	. . . .
A1	9015.87	0.54	. . . .	. . . .	0.89	. . . .	. . . .	. . . .
A2	9014.25	0.60	0.83	. . . .	0.98	. . . .	. . . .	. . . .
A3	9009.87	0.64	0.91	. . . .	1.11	. . . .	. . . .	. . . .
A4	9004.22	0.55	0.81	. . . .	1.07	. . . .	. . . .	. . . .
A5	9001.00	0.16	0.35	. . . .	0.47	. . . .	. . . .	. . . .
A6	8998.65	0.10	0.33	. . . .	0.49	. . . .	. . . .	. . . .
A7	8993.71	0.06	0.28	. . . .	0.76	. . . .	. . . .	. . . .
A8	8991.47	-0.10	0.15	. . . .	0.62	. . . .	. . . .	. . . .
B1	9173.78	0.16	0.38	. . . .	0.27	. . . .	. . . .	. . . .
B2	9170.78	0.16	0.39	. . . .	0.28	. . . .	. . . .	. . . .
B3	9158.29	0.21	0.43	. . . .	0.35	. . . .	. . . .	. . . .
B4	9141.32	0.11	0.29	. . . .	0.26	. . . .	. . . .	. . . .
B5	9124.50	0.12	0.31	. . . .	0.27	. . . .	. . . .	. . . .
B6	9111.43	-0.00	0.16	. . . .	0.13	. . . .	. . . .	. . . .
B7	9095.66	0.03	0.22	. . . .	0.17	. . . .	. . . .	. . . .
E1	9008.16	-0.09	-0.02	-0.01	. . . .	-0.00	0.00	-0.00
E2	8997.85	-0.09	-0.01	-0.02	. . . .	-0.01	-0.01	-0.01
E3	8987.42	-0.11	-0.03	-0.02	. . . .	-0.01	0.00	-0.01
E4	8977.75	-0.11	-0.03	-0.03	. . . .	-0.02	-0.02	-0.02
E5	8968.10	-0.12	-0.02	-0.02	. . . .	-0.02	0.00	-0.01
E6	8959.71	-0.16	-0.02	-0.03	. . . .	-0.02	0.00	-0.01
E7	8954.73	-0.12	-0.01	-0.03	. . . .	-0.02	0.01	0.01
E8	8957.98	-0.13	-0.03	-0.03	. . . .	-0.03	0.00	0.00
E9	8959.92	-0.16	-0.01	-0.03	. . . .	-0.02	0.00	0.01
E10	8960.97	-0.11	-0.02	-0.03	. . . .	-0.00	0.03	0.03
E11	8967.90	-0.10	0.02	0.03	. . . .	0.06	0.09	0.09

DEER CREEK SUBSIDENCE PROJECT LISTING OF ELEVATION

STATION NAME	BASE DATE BASE FILE	DIFFERENCES BY DATES : 12/10/1980 J + T : L	6/08/1981 J + T : L	7/13/1981 J + T : L	8/19/1981 USBM : L	8/17/1981 J + T : L	9/14/1981 J + T : L	10/21/1981 J + T : L
E12	8983.37	-0.10	0.10	0.16	. . . .	0.21	0.24	0.25
E13	8993.84	-0.02	0.22	0.34	. . . .	0.43	0.48	0.48
E14	9007.06	-0.01	0.39	0.82	. . . .	1.13	1.26	1.32
E15	9029.96	-0.02	0.52	0.98	. . . .	1.43	1.61	1.70
E16	9055.05	-0.01	0.54	1.06	. . . .	1.59	1.79	1.89
E17	9076.10	0.02	0.57	1.12	. . . .	1.73	1.98	2.11
E18	9094.27	0.07	0.57	1.12	. . . .	1.88	2.20	2.35
E19	9104.22	0.13	0.61	1.06	. . . .	1.91	2.31	2.49
E20	9105.05	0.23	0.64	0.99	. . . .	1.89	2.38	2.61
E21	9118.34	0.29	0.72	0.95	. . . .	1.70	2.28	2.56
E22	9129.72	0.39	0.80	0.95	. . . .	1.56	2.18	2.52
E23	9140.18	0.48	0.90	0.99	. . . .	1.44	2.03	2.44
E24	9147.95	0.60	1.00	1.06	. . . .	1.41	1.90	2.33
E25	9154.02	0.74	1.13	1.15	. . . .	1.43	1.81	2.13
E26	9157.11	0.82	1.23	1.23	. . . .	1.44	1.71	1.96
E27	9159.69	0.95	1.32	1.38	. . . .	1.51	1.69	1.86
E28	9161.39	0.98	1.36	1.41	. . . .	1.52	1.66	1.77
E29	9159.70	0.71	1.10	1.15	. . . .	1.25	1.34	1.42
E30	9155.41	0.72	1.11	1.15	. . . .	1.21	1.28	1.33
E31	9148.90	0.54	0.97	1.01	. . . .	1.07	1.12	1.16
E32	9141.48	0.42	0.85	0.87	. . . .	0.92	0.95	0.97
E33	9134.71	0.31	0.77	0.79	. . . .	0.81	0.82	0.84
E34	9125.08	0.17	0.60	0.61	. . . .	0.64	0.64	0.65
E35	9116.50	0.08	0.49	0.49	. . . .	0.50	0.48	0.50
E36	9112.04	0.01	0.38	0.38	. . . .	0.39	0.37	0.37
E37	9105.12	-0.08	0.19	0.24	. . . .	0.23	0.20	0.19
E38	9090.76	-0.16	0.06	0.13	. . . .	0.13	0.11	0.09
E39	9075.68	-0.21	-0.03	0.04	. . . .	0.03	-0.00	-0.02
E40	9065.14	-0.19	-0.01	0.06	. . . .	0.05	0.02	-0.00
E41	9051.25	-0.23	-0.07	0.00	. . . .	-0.00	-0.03	-0.05
E42	9040.70	-0.16	-0.00	0.05	. . . .	0.04	-0.00	0.00
E43	9034.43	-0.26	-0.11	-0.06	. . . .	-0.07	-0.10	-0.10
E44	9031.28	-0.19	-0.06	-0.01	. . . .	-0.03	-0.06	-0.07
E45	9025.88	-0.22	-0.10	-0.05	. . . .	-0.06	-0.08	-0.09
E46	9006.92	-0.21	-0.08	-0.04	. . . .	-0.06	-0.08	-0.09
E47	8988.15	-0.22	-0.07	-0.05	. . . .	-0.06	-0.09	-0.09
E48	8971.80	-0.21	-0.06	-0.05	. . . .	-0.06	-0.09	-0.08
E49	8951.26	-0.15	0.00	0.00	. . . .	-0.02	-0.05	-0.05
E50	8942.68	-0.14	0.00	0.00	. . . .	-0.00	-0.03	-0.03
F1	9023.07	-0.04	-0.03	0.00	. . . .	0.01	0.01	0.05

DEER CREEK SUBSIDENCE PROJECT LISTING OF ELEVATION

STATION NAME	BASE DATE BASE FILE	DIFFERENCES BY DATES : 12/10/1980 J + T : L	6/08/1981 J + T : L	7/13/1981 J + T : L	8/19/1981 USBM : L	8/17/1981 J + T : L	9/14/1981 J + T : L	10/21/1981 J + T : L
F2	9008.49	-0.03	-0.01	0.01	. . . .	0.01	0.01	0.05
F3	8995.51	-0.03	-0.01	0.00	. . . .	0.01	0.02	0.05
F4	8982.79	-0.02	-0.00	0.01	. . . .	0.02	0.03	0.06
F5	8970.51	-0.03	-0.01	0.00	. . . .	0.01	0.03	0.04
F6	8956.47	-0.00	0.01	0.02	. . . .	0.02	0.04	0.06
F7	8945.05	-0.00	0.01	0.02	. . . .	0.02	0.04	0.06
F8	8931.96	0.01	0.01	0.03	. . . .	0.02	0.05	0.06
F9	8924.71	0.01	0.00	0.04	. . . .	0.03	0.07	0.09
F10	8926.09	-0.03	0.00	0.02	. . . .	0.01	0.04	0.05
F11	8941.36	-0.03	-0.02	0.02	. . . .	0.02	0.07	0.07
F12	8955.26	-0.02	0.01	0.06	. . . .	0.07	0.12	0.13
F13	8966.19	-0.02	0.09	0.16	. . . .	0.17	0.24	0.25
F14	8978.04	-0.03	0.18	0.37	. . . .	0.46	0.55	0.59
F15	9000.47	-0.03	0.21	0.53	. . . .	0.71	0.82	0.88
F16	9026.33	-0.05	0.22	0.56	. . . .	0.78	0.91	0.97
F17	9061.13	-0.08	0.21	0.57	. . . .	0.85	1.01	1.09
F18	9081.04	-0.08	0.18	0.53	. . . .	0.87	1.07	1.17
F19	9093.32	-0.07	0.14	0.45	. . . .	0.85	1.12	1.27
F20	9099.94	-0.08	0.12	0.36	. . . .	0.72	1.04	1.24
F21	9107.45	-0.07	0.09	0.27	. . . .	0.55	0.86	1.11
F22	9114.79	-0.07	0.07	0.21	. . . .	0.41	0.66	0.94
F23	9120.92	-0.06	0.05	0.16	. . . .	0.30	0.49	0.73
F24	9124.11	-0.05	0.04	0.12	. . . .	0.21	0.36	0.56
F25	9125.36	-0.05	0.01	0.09	. . . .	0.16	0.30	0.46
F26	9128.82	-0.05	-0.03	0.05	. . . .	0.14	0.26	0.38
F27	9137.33	-0.05	0.00	0.10	. . . .	0.14	0.19	0.22
F28	9143.67	-0.04	-0.00	0.09	. . . .	0.11	0.13	0.14
F29	9142.21	-0.04	0.00	0.09	. . . .	0.10	0.12	0.10
F30	9133.76	-0.02	0.01	0.10	. . . .	0.11	0.12	0.11
F31	9121.28	-0.01	0.02	0.11	. . . .	0.10	0.09	0.07
F32	9108.36	-0.01	0.02	0.10	. . . .	0.09	0.09	0.06
F33	9093.02	-0.01	0.04	0.10	. . . .	0.09	0.07	0.05
F34	9083.37	-0.00	0.04	0.09	. . . .	0.09	0.08	0.04
F35	9075.64	0.00	0.03	0.09	. . . .	0.07	0.07	0.03
F36	9070.91	0.00	0.05	0.08	. . . .	0.08	0.07	0.03
F37	9057.40	-0.01	0.03	0.05	. . . .	0.04	0.04	0.01
F38	9039.82	-0.00	0.03	0.05	. . . .	0.04	0.02	0.00
F39	9027.80	-0.01	0.05	0.06	. . . .	0.05	0.04	0.02
F40	9008.94	-0.01	0.05	0.05	. . . .	0.03	0.02	-0.00
F41	8989.27	-0.01	0.07	0.05	. . . .	0.03	0.02	0.01

DEER CREEK SUBSIDENCE PROJECT LISTING OF ELEVATION DIFFERENCES BY DATES :

STATION NAME	BASE DATE BASE FILE	12/10/1980 J + T : L	6/08/1981 J + T : L	7/13/1981 J + T : L	8/19/1981 USBM : L	8/17/1981 J + T : L	9/14/1981 J + T : L	10/21/1981 J + T : L
F42	8973.19	-0.02	0.06	0.03	. . . .	0.01	-0.01	-0.01
F43	8952.18	-0.02	0.06	0.01	. . . .	-0.01	-0.03	-0.03
F44	8931.29	-0.02	0.05	0.01	. . . .	-0.01	-0.03	-0.03
F45	8911.66	-0.03	0.06	-0.00	. . . .	-0.02	-0.03	-0.03
F46	8893.75	-0.02	0.04	-0.01	. . . .	-0.02	-0.03	-0.04
F47	8889.64	-0.03	-0.01	-0.01	. . . .	-0.03	-0.04	-0.04
G1	9017.27	. . . .	. . . .	-0.00	0.02	-0.00	0.00	-0.00
G2	9010.00	. . . .	. . . .	-0.00	0.03	-0.00	-0.00	-0.01
G3	8996.96	. . . .	. . . .	0.00	0.03	0.01	0.01	-0.00
G4	8986.77	. . . .	. . . .	-0.01	0.04	0.00	-0.00	-0.02
G5	8979.31	. . . .	. . . .	-0.00	0.05	0.00	0.00	-0.01
SG5	8974.82	. . . .	. . . .	-0.04	-0.00	. . . .	. . . .	. . . .
G6	8968.83	. . . .	. . . .	0.00	0.04	0.00	-0.00	-0.02
SG6	8964.78	. . . .	. . . .	. . . .	-0.00	. . . .	. . . .	. . . .
G7	8957.86	. . . .	. . . .	-0.01	0.05	0.00	-0.00	-0.02
SG7	8951.87	. . . .	. . . .	. . . .	-0.01	. . . .	. . . .	. . . .
G8	8940.86	. . . .	. . . .	-0.01	0.06	-0.00	-0.00	-0.03
SG8	8931.87	. . . .	. . . .	. . . .	-0.00	. . . .	. . . .	. . . .
G9	8920.29	. . . .	. . . .	-0.00	0.07	0.01	0.01	-0.02
SG9	8911.38	. . . .	. . . .	. . . .	-0.00	. . . .	. . . .	. . . .
G10	8904.15	. . . .	. . . .	-0.01	0.08	0.01	0.02	-0.02
SG10	8900.79	. . . .	. . . .	. . . .	-0.01	. . . .	. . . .	. . . .
G11	8897.67	. . . .	. . . .	0.00	0.10	0.05	0.06	0.01
SG11	8906.63	. . . .	. . . .	. . . .	-0.01	. . . .	. . . .	. . . .
G12	8916.99	. . . .	. . . .	-0.01	0.07	0.01	0.03	-0.02
SG12	8929.77	. . . .	. . . .	-0.07	-0.00	. . . .	. . . .	. . . .
G13	8939.73	. . . .	. . . .	-0.01	0.05	0.02	0.02	-0.03
SG13	8949.34	. . . .	. . . .	-0.06	-0.00	. . . .	. . . .	. . . .
G14	8956.60	. . . .	. . . .	-0.00	0.04	0.01	0.03	-0.02
SG14	8970.00	. . . .	. . . .	. . . .	-0.01	. . . .	. . . .	. . . .
G15	8986.45	. . . .	. . . .	-0.00	0.05	0.02	0.04	-0.02
G16	9020.60	. . . .	. . . .	-0.00	0.07	0.04	0.06	0.00
G17	9049.24	. . . .	. . . .	-0.01	0.03	0.03	0.03	-0.01
G18	9068.76	. . . .	. . . .	0.00	0.02	0.02	0.04	-0.01
G19	9080.04	. . . .	. . . .	-0.01	-0.00	0.01	0.02	-0.02
G20	9086.97	. . . .	. . . .	-0.01	0.00	0.01	0.02	-0.02
G21	9090.12	. . . .	. . . .	0.00	0.01	0.01	0.03	-0.00
G22	9085.88	. . . .	. . . .	-0.00	0.00	0.01	0.04	-0.01
G23	9082.52	. . . .	. . . .	-0.01	0.00	0.01	0.03	-0.02
G24	9079.10	. . . .	. . . .	0.00	0.01	0.02	0.04	-0.01

DEER CREEK SUBSIDENCE PROJECT LISTING OF ELEVATION
BASE DATE DIFFERENCES BY DATES :

STATION NAME	BASE FILE	12/10/1980 J + T : L	6/08/1981 J + T : L	7/13/1981 J + T : L	8/19/1981 USBM : L	8/17/1981 J + T : L	9/14/1981 J + T : L	10/21/1981 J + T : L
G25	9072.97	. . . .	. . . .	-0.01	0.00	0.01	0.03	-0.02
G26	9066.68	. . . .	. . . .	-0.00	0.00	0.01	0.02	-0.02
G27	9058.06	. . . .	. . . .	-0.01	-0.02	-0.00	0.02	-0.03
G28	9050.08	. . . .	. . . .	-0.00	0.00	0.01	0.02	-0.02
G29	9042.11	. . . .	. . . .	-0.01	0.00	-0.00	0.01	-0.02
G30	9033.43	. . . .	. . . .	-0.01	0.01	0.00	0.02	-0.02
G31	9025.21	. . . .	. . . .	0.00	-0.01	-0.02	-0.02	-0.03
G32	9018.40	. . . .	. . . .	-0.01	0.00	-0.01	0.00	-0.03
G33	9006.13	. . . .	. . . .	-0.01	0.02	-0.01	0.00	-0.01
G34	8995.21	. . . .	. . . .	0.00	0.02	-0.01	-0.00	-0.04
G35	8981.85	. . . .	. . . .	-0.00	0.01	-0.03	-0.03	-0.05
SG35	8974.89	. . . .	. . . .	. . . .	-0.00	. . . .	. . . .	. . . .
G36	8964.21	. . . .	. . . .	-0.01	0.02	-0.03	-0.03	-0.05
SG36	8956.26	. . . .	. . . .	. . . .	-0.00	. . . .	. . . .	. . . .
G37	8945.34	. . . .	. . . .	-0.00	0.03	-0.02	-0.03	-0.04
SG37	8937.39	. . . .	. . . .	. . . .	-0.00	. . . .	. . . .	. . . .
G38	8930.39	. . . .	. . . .	-0.01	0.02	-0.03	-0.04	-0.06
SG38	8923.44	. . . .	. . . .	. . . .	-0.00	. . . .	. . . .	. . . .
G39	8916.86	. . . .	. . . .	-0.01	0.05	-0.01	-0.01	-0.04
SG39	8913.78	. . . .	. . . .	. . . .	-0.01	. . . .	. . . .	. . . .
G40	8908.02	. . . .	. . . .	-0.01	0.06	-0.01	-0.01	-0.04
SG40	8902.15	. . . .	. . . .	. . . .	0.00	. . . .	. . . .	. . . .
G41	8892.67	. . . .	. . . .	-0.01	0.04	-0.02	-0.03	-0.06
SG41	8886.58	. . . .	. . . .	. . . .	0.00	. . . .	. . . .	. . . .
G42	8877.43	. . . .	. . . .	-0.01	0.04	-0.02	-0.03	-0.07
SG42	8872.97	. . . .	. . . .	. . . .	0.00	. . . .	. . . .	. . . .
G43	8863.93	. . . .	. . . .	-0.01	0.06	-0.02	-0.02	-0.03
SG43	8861.41	. . . .	. . . .	. . . .	-0.00	. . . .	. . . .	. . . .
G44	8858.04	. . . .	. . . .	-0.00	0.06	-0.02	-0.02	-0.04
SG44	8859.48	. . . .	. . . .	-0.07	-0.00	. . . .	. . . .	. . . .
G45	8859.54	. . . .	. . . .	0.00	0.06	-0.01	-0.01	-0.03
G46	8872.66	. . . .	. . . .	-0.00	0.04	-0.03	-0.04	-0.05
G47	8884.46	. . . .	. . . .	-0.01	0.05	-0.03	-0.03	-0.03
G48	8898.13	. . . .	. . . .	-0.01	0.05	-0.03	-0.03	-0.03
G49	8913.06	. . . .	. . . .	-0.00	0.05	-0.02	-0.02	-0.03
G50	8927.28	. . . .	. . . .	-0.01	0.06	-0.01	0.01	-0.01

DEER CREEK SUBSIDENCE PROJECT LISTING OF ELEVATION

BASE DATE DIFFERENCES BY DATES :

STATION NAME	BASE FILE	06/21/1982 USBM : L	06/22/1982 J + T : L	07/20/1982 J + T : L	08/09/1982 USBM : L	08/26/1982 J + T : L	09/21/1982 J + T : L	10/13/1982 J + T : L
DC1	8994.68	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
DC2	8955.53	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
BM1	9025.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BM2	9159.51	. . . .	4.56	4.65	. . . .	4.89	5.10	5.16
BM3	9188.67	. . . .	3.93	4.01	. . . .	4.07	4.17	4.17
BM4	9104.14	. . . .	0.00	0.00	. . . .	0.00	0.00	0.00
BM5	9096.70	. . . .	0.00	0.00	. . . .	0.00	0.00	0.00
BM6	8943.36	. . . .	0.33	0.38	. . . .	0.38	0.45	0.52
BM7	9106.90	. . . .	0.00	0.00	. . . .	0.00	0.00	0.00
BM8	8980.15	. . . .	-0.00	. . . .	. . . .	. . . .	. . . .	. . . .
BM9	8961.81	. . . .	0.00	0.00	. . . .	0.00	-0.07	0.00
BM10	9067.32	0.00	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
NCP0	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
NCP1	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
NCP2	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
NCP3	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
NCP4	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
NCP5	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
NCP6	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
NCP7	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
NCP8	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
NCP9	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
C1	8998.65	0.08	. . . .	. . . .	0.10	. . . .	. . . .	. . . .
C2	8988.15	0.09	. . . .	. . . .	0.12	. . . .	. . . .	. . . .
C3	8978.20	0.10	. . . .	. . . .	0.14	. . . .	. . . .	. . . .
C4	8971.85	0.12	. . . .	. . . .	0.12	. . . .	. . . .	. . . .
C5	8970.99	0.16	. . . .	. . . .	0.20	. . . .	. . . .	. . . .
C6	8976.02	0.12	. . . .	. . . .	0.16	. . . .	. . . .	. . . .
C7	8984.61	0.18	. . . .	. . . .	0.22	. . . .	. . . .	. . . .
C8	8990.13	0.20	. . . .	. . . .	0.22	. . . .	. . . .	. . . .
C9	8993.46	0.23	. . . .	. . . .	0.26	. . . .	. . . .	. . . .
C10	8997.67	0.25	. . . .	. . . .	0.31	. . . .	. . . .	. . . .
C11	9001.98	0.38	. . . .	. . . .	0.43	. . . .	. . . .	. . . .
C12	9008.04	0.59	. . . .	. . . .	0.64	. . . .	. . . .	. . . .
C13	9017.60	1.51	. . . .	. . . .	1.62	. . . .	. . . .	. . . .
C14	9030.62	1.67	. . . .	. . . .	1.81	. . . .	. . . .	. . . .
C15	9054.08	1.90	. . . .	. . . .	2.04	. . . .	. . . .	. . . .
C16	9076.04	2.10	. . . .	. . . .	2.25	. . . .	. . . .	. . . .
C17	9096.46	2.46	. . . .	. . . .	2.61	. . . .	. . . .	. . . .
C18	9120.88	2.67	. . . .	. . . .	2.82	. . . .	. . . .	. . . .

DEER CREEK SUBSIDENCE PROJECT LISTING OF ELEVATION

STATION NAME	BASE DATE BASE FILE	DIFFERENCES BY DATES : 06/21/1982 USBM : L	06/22/1982 J + T : L	07/20/1982 J + T : L	08/09/1982 USBM : L	08/26/1982 J + T : L	09/21/1982 J + T : L	10/13/1982 J + T : L
C19	9137.26	2.88	. . . .	. . . .	2.99	. . . .	. . . .	. . . .
C20	9152.74	2.98	. . . .	. . . .	3.09	. . . .	. . . .	. . . .
C21	9166.18	3.04	. . . .	. . . .	3.13	. . . .	. . . .	. . . .
C22	9173.53	3.15	. . . .	. . . .	3.21	. . . .	. . . .	. . . .
C23	9175.25	3.23	. . . .	. . . .	3.28	. . . .	. . . .	. . . .
C24	9170.81	3.26	. . . .	. . . .	3.32	. . . .	. . . .	. . . .
C25	9170.54	3.25	. . . .	. . . .	3.32	. . . .	. . . .	. . . .
C26	9181.64	3.22	. . . .	. . . .	3.30	. . . .	. . . .	. . . .
C27	9188.24	3.26	. . . .	. . . .	3.30	. . . .	. . . .	. . . .
C28	9187.66	3.21	. . . .	. . . .	3.25	. . . .	. . . .	. . . .
C29	9189.62	3.17	. . . .	. . . .	3.21	. . . .	. . . .	. . . .
C30	9190.13	3.24	. . . .	. . . .	3.27	. . . .	. . . .	. . . .
C31	9193.08	3.06	. . . .	. . . .	3.07	. . . .	. . . .	. . . .
C32	9188.37	2.99	. . . .	. . . .	3.01	. . . .	. . . .	. . . .
C33	9187.61	2.74	. . . .	. . . .	2.74	. . . .	. . . .	. . . .
C34	9183.94	2.16	. . . .	. . . .	2.19	. . . .	. . . .	. . . .
C35	9179.18	1.55	. . . .	. . . .	1.58	. . . .	. . . .	. . . .
C36	9178.90	1.26	. . . .	. . . .	1.27	. . . .	. . . .	. . . .
C37	9178.13	0.80	. . . .	. . . .	0.81	. . . .	. . . .	. . . .
C38	9175.22	0.64	. . . .	. . . .	0.66	. . . .	. . . .	. . . .
C39	9170.81	0.48	. . . .	. . . .	0.48	. . . .	. . . .	. . . .
C40	9162.20	0.30	. . . .	. . . .	0.32	. . . .	. . . .	. . . .
C41	9148.84	0.23	. . . .	. . . .	0.24	. . . .	. . . .	. . . .
C42	9135.52	0.13	. . . .	. . . .	0.16	. . . .	. . . .	. . . .
C43	9125.00	0.05	. . . .	. . . .	0.06	. . . .	. . . .	. . . .
C44	9117.09	-0.04	. . . .	. . . .	-0.04	. . . .	. . . .	. . . .
C45	9105.25	-0.09	. . . .	. . . .	-0.08	. . . .	. . . .	. . . .
C46	9084.48	-0.10	. . . .	. . . .	-0.06	. . . .	. . . .	. . . .
C47	9065.21	0.02	. . . .	. . . .	0.03	. . . .	. . . .	. . . .
C48	9046.81	-0.15	. . . .	. . . .	-0.11	. . . .	. . . .	. . . .
C49	9028.02	-0.06	. . . .	. . . .	-0.04	. . . .	. . . .	. . . .
C50	9004.20	-0.16	. . . .	. . . .	-0.08	. . . .	. . . .	. . . .
P16	9203.57	1.66	. . . .	. . . .	1.69	. . . .	. . . .	. . . .
P15	9197.23	1.95	. . . .	. . . .	1.99	. . . .	. . . .	. . . .
P14	9194.67	2.29	. . . .	. . . .	2.32	. . . .	. . . .	. . . .
P13	9191.28	2.74	. . . .	. . . .	2.79	. . . .	. . . .	. . . .
P12	9183.72	3.76	3.69	3.79	3.83	3.84	3.94	3.93
P11	9180.58	4.04	3.96	4.06	. . . .	4.11	4.22	4.22
P10	9176.25	4.20	4.12	4.22	. . . .	4.28	4.40	4.40
P9	9171.03	4.36	4.29	4.39	. . . .	4.47	4.59	4.60

DEER CREEK SUBSIDENCE PROJECT LISTING OF ELEVATION

STATION NAME	BASE DATE BASE FILE	DIFFERENCES BY DATES : 06/21/1982 USBM : L	06/22/1982 J + T : L	07/20/1982 J + T : L	08/09/1982 USBM : L	08/26/1982 J + T : L	09/21/1982 J + T : L	10/13/1982 J + T : L
P8	9165.59	4.44	4.42	4.47	. . . .	4.58	4.72	4.73
P7	9160.70	4.73	4.71	4.79	. . . .	4.91	5.07	5.08
P6	9159.07	4.77	4.74	4.81	. . . .	4.98	5.15	5.17
P5	9160.44	4.56	4.53	4.62	. . . .	4.82	5.02	5.08
P4	9157.80	4.29	4.26	4.35	. . . .	4.61	4.86	4.96
P3	9154.42	3.89	3.87	3.98	. . . .	4.33	4.65	4.81
P2	9151.12	3.11	3.09	3.21	. . . .	3.66	4.12	4.43
P1	9143.31	2.14	2.10	2.22	. . . .	2.79	3.39	3.90
P17	9129.72	1.23	1.25	1.28	. . . .	1.82	2.48	3.21
P18	9114.29	0.73	0.77	0.78	. . . .	1.29	1.99	2.81
P19	9100.43	0.41	0.47	0.46	. . . .	0.85	1.50	2.37
P20	9089.13	0.26	0.33	0.29	. . . .	0.59	1.15	2.01
P21	9074.91	0.16	0.19	0.16	. . . .	0.40	0.82	1.54
P22	9061.37	0.11	0.14	0.12	. . . .	0.30	0.65	1.16
P23	9048.42	0.06	0.11	0.08	. . . .	0.21	0.45	0.75
P24	9042.63	0.05	0.10	0.05	. . . .	0.15	0.31	0.46
P25	9038.54	0.02	0.09	0.04	. . . .	0.09	0.21	0.31
SP25	9039.18	. . . .	0.02	-0.03	. . . .	0.01	0.12	0.19
P26	9036.75	0.01	0.07	0.03	. . . .	0.06	0.15	0.22
SP26	9036.84	. . . .	0.01	-0.03	. . . .	-0.01	0.08	0.14
P27	9035.61	0.02	0.08	0.03	. . . .	0.05	0.13	0.18
SP27	9033.56	. . . .	0.02	-0.02	. . . .	-0.01	0.06	0.11
P28	9027.03	0.01	0.07	0.03	. . . .	0.03	0.11	0.14
SP28	9020.71	. . . .	0.03	-0.02	. . . .	-0.03	0.05	0.08
SP29	9014.04	. . . .	0.03	-0.02	. . . .	-0.02	0.05	0.08
SP30	9007.47	. . . .	0.03	-0.02	. . . .	-0.03	0.04	0.07
SP31	9000.30	. . . .	0.03	-0.02	. . . .	-0.03	0.04	0.07
SP32	8991.51	. . . .	0.03	-0.01	. . . .	-0.04	0.03	0.06
SP33	8979.06	. . . .	0.03	-0.01	. . . .	-0.04	0.03	0.06
SP34	8966.51	. . . .	0.03	-0.01	. . . .	-0.04	0.03	0.05
SP35	8954.85	. . . .	0.04	-0.02	. . . .	-0.05	0.01	0.04
SP36	8945.07	. . . .	0.04	-0.02	. . . .	-0.05	0.03	0.04
SP37	8937.55	. . . .	0.07	-0.00	. . . .	-0.04	0.03	0.05
SP38	8932.96	. . . .	0.06	-0.01	. . . .	-0.05	0.02	0.05
SP39	8929.45	. . . .	0.06	-0.01	. . . .	-0.06	0.01	0.04
SP40	8926.20	. . . .	0.06	-0.01	. . . .	-0.06	0.01	0.03
SP41	8923.56	. . . .	0.06	-0.01	. . . .	-0.05	0.01	0.04
SP42	8922.57	. . . .	0.06	-0.01	. . . .	-0.06	-0.01	0.02
SP43	8922.02	. . . .	0.06	0.01	. . . .	-0.06	-0.00	0.02
SP44	8921.65	. . . .	0.06	-0.01	. . . .	-0.06	0.00	0.02

DEER CREEK SUBSIDENCE PROJECT LISTING OF ELEVATION

BASE DATE DIFFERENCES BY DATES :

STATION NAME	BASE FILE	06/21/1982 USBM : L	06/22/1982 J + T : L	07/20/1982 J + T : L	08/09/1982 USBM : L	08/26/1982 J + T : L	09/21/1982 J + T : L	10/13/1982 J + T : L
SP45	8921.35	. . . .	0.06	-0.01	. . . .	-0.07	0.00	0.01
D1	8960.18	0.02	. . . .	. . . .	0.12	. . . .	. . . .	. . . .
D2	8953.04	0.06	. . . .	. . . .	0.16	. . . .	. . . .	. . . .
D3	8949.27	0.08	. . . .	. . . .	0.17	. . . .	. . . .	. . . .
D4	8949.94	0.11	. . . .	. . . .	0.21	. . . .	. . . .	. . . .
D5	8957.29	0.13	. . . .	. . . .	0.21	. . . .	. . . .	. . . .
D6	8967.44	0.15	. . . .	. . . .	0.25	. . . .	. . . .	. . . .
D7	8975.26	0.15	. . . .	. . . .	0.23	. . . .	. . . .	. . . .
D8	8983.90	0.22	. . . .	. . . .	0.30	. . . .	. . . .	. . . .
D9	8990.92	0.44	. . . .	. . . .	0.52	. . . .	. . . .	. . . .
D10	8999.20	0.63	. . . .	. . . .	0.71	. . . .	. . . .	. . . .
D11	9007.03	1.28	. . . .	. . . .	1.38	. . . .	. . . .	. . . .
D12	9016.69	1.82	. . . .	. . . .	1.95	. . . .	. . . .	. . . .
D13	9029.19	1.91	. . . .	. . . .	2.06	. . . .	. . . .	. . . .
A1	9015.87	1.16	. . . .	. . . .	1.28	. . . .	. . . .	. . . .
A2	9014.25	1.25	. . . .	. . . .	1.38	. . . .	. . . .	. . . .
A3	9009.87	1.41	. . . .	. . . .	1.56	. . . .	. . . .	. . . .
A4	9004.22	1.34	. . . .	. . . .	1.49	. . . .	. . . .	. . . .
A5	9001.00	0.58	. . . .	. . . .	0.65	. . . .	. . . .	. . . .
A6	8998.65	0.60	. . . .	. . . .	0.69	. . . .	. . . .	. . . .
A7	8993.71	0.60	. . . .	. . . .	0.70	. . . .	. . . .	. . . .
A8	8991.47	0.47	. . . .	. . . .	0.58	. . . .	. . . .	. . . .
B1	9173.78	0.62	. . . .	. . . .	0.61	. . . .	. . . .	. . . .
B2	9170.78	0.64	. . . .	. . . .	0.63	. . . .	. . . .	. . . .
B3	9158.29	0.73	. . . .	. . . .	0.72	. . . .	. . . .	. . . .
B4	9141.32	0.65	. . . .	. . . .	0.65	. . . .	. . . .	. . . .
B5	9124.50	0.67	. . . .	. . . .	0.68	. . . .	. . . .	. . . .
B6	9111.43	0.56	. . . .	. . . .	0.59	. . . .	. . . .	. . . .
B7	9095.66	0.63	. . . .	. . . .	0.65	. . . .	. . . .	. . . .
E1	9008.16	. . . .	-0.01	-0.00	. . . .	-0.01	-0.00	0.00
E2	8997.85	. . . .	-0.01	0.02	. . . .	-0.01	-0.00	0.00
E3	8987.42	. . . .	-0.02	-0.00	. . . .	-0.00	0.01	0.00
E4	8977.75	. . . .	-0.04	-0.03	. . . .	-0.03	-0.02	-0.02
E5	8968.10	. . . .	-0.02	-0.01	. . . .	-0.02	-0.00	-0.00
E6	8959.71	. . . .	-0.02	-0.03	. . . .	-0.02	-0.00	0.00
E7	8954.73	. . . .	0.01	-0.00	. . . .	0.01	0.02	0.02
E8	8957.98	. . . .	-0.00	0.00	. . . .	0.01	0.03	0.03
E9	8959.92	. . . .	0.02	0.01	. . . .	0.02	0.04	0.04
E10	8960.97	. . . .	0.05	0.03	. . . .	0.05	0.07	0.07
E11	8967.90	. . . .	0.11	0.10	. . . .	0.11	0.14	0.14

DEER CREEK SUBSIDENCE PROJECT LISTING OF ELEVATION

STATION NAME	BASE DATE BASE FILE	DIFFERENCES BY DATES : 06/21/1982 USBM : L	06/22/1982 J + T : L	07/20/1982 J + T : L	08/09/1982 USBM : L	08/26/1982 J + T : L	09/21/1982 J + T : L	10/13/1982 J + T : L
E12	8983.37	. . . .	0.35	0.35	. . . .	0.38	0.41	0.41
E13	8993.84	. . . .	0.62	0.64	. . . .	0.69	0.72	0.74
E14	9007.06	. . . .	1.67	1.75	. . . .	1.88	1.97	2.02
E15	9029.96	. . . .	2.09	2.18	. . . .	2.34	2.43	2.49
E16	9055.05	. . . .	2.35	2.45	. . . .	2.61	2.70	2.75
E17	9076.10	. . . .	2.61	2.71	. . . .	2.86	2.95	3.01
E18	9094.27	. . . .	2.90	3.00	. . . .	3.15	3.25	3.31
E19	9104.22	. . . .	3.12	3.21	. . . .	3.35	3.46	3.53
E20	9105.05	. . . .	3.22	3.31	. . . .	3.48	3.67	3.68
E21	9118.34	. . . .	3.38	3.46	. . . .	3.61	3.78	3.80
E22	9129.72	. . . .	3.51	3.60	. . . .	3.75	3.93	3.94
E23	9140.18	. . . .	3.66	3.73	. . . .	3.88	4.06	4.07
E24	9147.95	. . . .	3.79	3.86	. . . .	4.01	4.18	4.20
E25	9154.02	. . . .	3.92	3.99	. . . .	4.14	4.30	4.32
E26	9157.11	. . . .	4.00	4.06	. . . .	4.20	4.36	4.39
E27	9159.69	. . . .	4.10	4.16	. . . .	4.28	4.45	4.47
E28	9161.39	. . . .	4.16	4.22	. . . .	4.33	4.49	4.52
E29	9159.70	. . . .	3.89	3.95	. . . .	4.06	4.21	4.24
E30	9155.41	. . . .	3.87	3.93	. . . .	4.02	4.17	4.20
E31	9148.90	. . . .	3.76	3.82	. . . .	3.91	4.05	4.08
E32	9141.48	. . . .	3.56	3.60	. . . .	3.68	3.83	3.86
E33	9134.71	. . . .	3.31	3.35	. . . .	3.42	3.56	3.59
E34	9125.08	. . . .	2.72	2.76	. . . .	2.82	2.95	2.97
E35	9116.50	. . . .	1.98	2.02	. . . .	2.06	2.19	2.19
E36	9112.04	. . . .	1.24	1.28	. . . .	1.32	1.42	1.41
E37	9105.12	. . . .	0.73	0.76	. . . .	0.78	0.86	0.83
E38	9090.76	. . . .	0.44	0.46	. . . .	0.47	0.55	0.51
E39	9075.68	. . . .	0.24	0.26	. . . .	0.26	0.33	0.29
E40	9065.14	. . . .	0.18	0.20	. . . .	0.20	0.26	0.22
E41	9051.25	. . . .	0.07	0.09	. . . .	0.10	0.16	0.12
E42	9040.70	. . . .	0.12	0.12	. . . .	0.11	0.17	0.14
E43	9034.43	. . . .	-0.01	-0.01	. . . .	-0.01	0.05	0.02
E44	9031.28	. . . .	0.03	0.02	. . . .	0.01	0.07	0.04
E45	9025.88	. . . .	-0.00	-0.00	. . . .	-0.01	0.05	0.02
E46	9006.92	. . . .	-0.03	-0.04	. . . .	-0.05	0.02	-0.01
E47	8988.15	. . . .	-0.02	-0.04	. . . .	-0.04	0.02	-0.01
E48	8971.80	. . . .	-0.01	-0.06	. . . .	-0.06	0.00	-0.02
E49	8951.26	. . . .	0.02	-0.06	. . . .	-0.07	-0.01	-0.02
E50	8942.68	. . . .	0.03	-0.05	. . . .	-0.05	0.02	0.00
F1	9023.07	. . . .	0.07	-0.00	. . . .	-0.02	-0.01	-0.02

DEER CREEK SUBSIDENCE PROJECT LISTING OF ELEVATION

STATION NAME	BASE DATE BASE FILE	DIFFERENCES BY DATES : 06/21/1982 USBM : L	06/22/1982 J + T : L	07/20/1982 J + T : L	08/09/1982 USBM : L	08/26/1982 J + T : L	09/21/1982 J + T : L	10/13/1982 J + T : L
F2	9008.49	. . . .	0.08	0.01	. . . .	0.00	-0.00	-0.00
F3	8995.51	. . . .	0.09	0.02	. . . .	0.00	0.01	0.00
F4	8982.79	. . . .	0.10	0.04	. . . .	0.02	0.03	0.02
F5	8970.51	. . . .	0.11	0.05	. . . .	0.03	0.04	0.03
F6	8956.47	. . . .	0.13	0.07	. . . .	0.06	0.06	0.05
F7	8945.05	. . . .	0.15	0.09	. . . .	0.07	0.08	0.07
F8	8931.96	. . . .	0.16	0.10	. . . .	0.09	0.09	0.09
F9	8924.71	. . . .	0.19	0.12	. . . .	0.12	0.12	0.11
F10	8926.09	. . . .	0.19	0.11	. . . .	0.11	0.11	0.10
F11	8941.36	. . . .	0.18	0.13	. . . .	0.13	0.13	0.12
F12	8955.26	. . . .	0.27	0.23	. . . .	0.23	0.24	0.24
F13	8966.19	. . . .	0.49	0.46	. . . .	0.47	0.50	0.50
F14	8978.04	. . . .	1.11	1.18	. . . .	1.36	1.45	1.50
F15	9000.47	. . . .	1.49	1.64	. . . .	1.93	2.05	2.13
F16	9026.33	. . . .	1.72	1.94	. . . .	2.28	2.40	2.50
F17	9061.13	. . . .	1.93	2.28	. . . .	2.79	2.93	3.03
F18	9081.04	. . . .	2.13	2.66	. . . .	3.45	3.62	3.74
F19	9093.32	. . . .	2.29	2.93	. . . .	4.02	4.23	4.36
F20	9099.94	. . . .	2.27	2.88	. . . .	4.17	4.42	4.58
F21	9107.45	. . . .	2.19	2.66	. . . .	4.12	4.44	4.63
F22	9114.79	. . . .	2.10	2.51	. . . .	3.90	4.31	4.56
F23	9120.92	. . . .	1.97	2.19	. . . .	3.55	4.08	4.40
F24	9124.11	. . . .	1.88	2.03	. . . .	3.19	3.81	4.22
F25	9125.36	. . . .	1.83	1.93	. . . .	2.86	3.53	4.05
F26	9128.82	. . . .	1.71	1.77	. . . .	2.53	3.19	3.81
F27	9137.33	1.68	1.70	1.72	. . . .	2.26	2.83	3.52
F28	9143.67	. . . .	1.63	1.65	. . . .	2.06	2.53	3.25
F29	9142.21	. . . .	1.57	1.57	. . . .	1.89	2.27	2.95
F30	9133.76	. . . .	1.50	1.49	. . . .	1.75	2.05	2.64
F31	9121.28	. . . .	1.37	1.36	. . . .	1.56	1.80	2.28
F32	9108.36	. . . .	1.31	1.29	. . . .	1.46	1.64	2.02
F33	9093.02	. . . .	1.18	1.15	. . . .	1.27	1.42	1.70
F34	9083.37	. . . .	1.05	1.01	. . . .	1.11	1.22	1.43
F35	9075.64	. . . .	0.84	0.79	. . . .	0.84	0.92	1.06
F36	9070.91	. . . .	0.70	0.65	. . . .	0.68	0.73	0.81
F37	9057.40	. . . .	0.52	0.46	. . . .	0.47	0.51	0.55
F38	9039.82	. . . .	0.42	0.34	. . . .	0.35	0.37	0.40
F39	9027.80	. . . .	0.36	0.30	. . . .	0.30	0.31	0.34
F40	9008.94	. . . .	0.29	0.21	. . . .	0.22	0.23	0.26
F41	8989.27	. . . .	0.26	0.18	. . . .	0.19	0.20	0.23

DEER CREEK SUBSIDENCE PROJECT LISTING OF ELEVATION

BASE DATE DIFFERENCES BY DATES :

STATION NAME	BASE FILE	06/21/1982 USBM : L	06/22/1982 J + T : L	07/20/1982 J + T : L	08/09/1982 USBM : L	08/26/1982 J + T : L	09/21/1982 J + T : L	10/13/1982 J + T : L
F42	8973.19	. . . .	0.19	0.11	. . . .	0.12	0.12	0.15
F43	8952.18	. . . .	0.17	0.07	. . . .	0.09	0.10	0.13
F44	8931.29	. . . .	0.15	0.06	. . . .	0.07	0.08	0.11
F45	8911.66	. . . .	0.13	0.04	. . . .	0.04	0.06	0.09
F46	8893.75	. . . .	0.13	0.05	. . . .	0.05	0.06	0.09
F47	8889.64	. . . .	0.08	-0.01	. . . .	-0.01	-0.00	0.03
G1	9017.27	. . . .	0.04	-0.02	. . . .	-0.02	-0.03	-0.02
G2	9010.00	. . . .	0.06	-0.01	. . . .	-0.02	-0.02	-0.01
G3	8996.96	. . . .	0.07	0.01	. . . .	-0.00	0.00	0.01
G4	8986.77	. . . .	0.07	-0.00	. . . .	-0.01	-0.01	0.00
G5	8979.31	. . . .	0.07	0.01	. . . .	-0.01	-0.00	0.01
SG5	8974.82	. . . .	0.03	-0.03	. . . .	-0.05	-0.04	-0.03
G6	8968.83	. . . .	0.08	0.02	. . . .	-0.00	0.01	0.02
SG6	8964.78	. . . .	0.03	-0.02	. . . .	-0.05	-0.04	-0.02
G7	8957.86	. . . .	0.08	0.03	. . . .	-0.00	0.01	0.03
SG7	8951.87	. . . .	0.01	-0.03	. . . .	-0.06	-0.05	-0.03
G8	8940.86	. . . .	0.08	0.04	. . . .	-0.00	0.01	0.03
SG8	8931.87	. . . .	0.03	-0.02	. . . .	-0.05	-0.04	-0.01
G9	8920.29	. . . .	0.11	0.07	. . . .	0.04	0.05	0.08
SG9	8911.38	. . . .	0.02	-0.00	. . . .	-0.04	-0.02	0.00
G10	8904.15	. . . .	0.12	0.09	. . . .	0.06	0.08	0.10
SG10	8900.79	. . . .	0.00	-0.03	. . . .	-0.07	-0.04	-0.01
G11	8897.67	. . . .	0.15	0.13	. . . .	0.10	0.14	0.17
SG11	8906.63	. . . .	0.08	0.07	. . . .	0.04	0.08	0.12
G12	8916.99	. . . .	0.19	0.17	. . . .	0.17	0.21	0.25
SG12	8929.77	. . . .	0.12	0.13	. . . .	0.15	0.20	0.24
G13	8939.73	. . . .	0.26	0.27	. . . .	0.32	0.40	0.46
SG13	8949.34	. . . .	0.28	0.32	. . . .	0.47	0.58	0.68
G14	8956.60	. . . .	0.39	0.47	. . . .	0.71	0.86	1.02
SG14	8970.00	. . . .	0.37	0.48	. . . .	0.78	0.96	1.13
G15	8986.45	. . . .	0.49	0.61	. . . .	0.94	1.14	1.32
G16	9020.60	. . . .	0.50	0.64	. . . .	1.02	1.22	1.41
G17	9049.24	. . . .	0.47	0.66	. . . .	1.07	1.28	1.49
G18	9068.76	. . . .	0.49	0.70	. . . .	1.20	1.42	1.64
G19	9080.04	. . . .	0.43	0.67	. . . .	1.30	1.56	1.79
G20	9086.97	. . . .	0.36	0.58	. . . .	1.35	1.65	1.90
G21	9090.12	. . . .	0.31	0.46	. . . .	1.30	1.64	1.92
G22	9085.88	. . . .	0.25	0.34	. . . .	1.12	1.51	1.82
G23	9082.52	. . . .	0.21	0.26	. . . .	0.92	1.37	1.71
G24	9079.10	. . . .	0.19	0.20	. . . .	0.72	1.19	1.58

DEER CREEK SUBSIDENCE PROJECT LISTING OF ELEVATION

BASE DATE DIFFERENCES BY DATES :

STATION NAME	BASE FILE	06/21/1982 USBM : L	06/22/1982 J + T : L	07/20/1982 J + T : L	08/09/1982 USBM : L	08/26/1982 J + T : L	09/21/1982 J + T : L	10/13/1982 J + T : L
G25	9072.97	. . . .	0.13	0.13	. . . .	0.52	0.97	1.40
G26	9066.68	. . . .	0.15	0.13	. . . .	0.38	0.79	1.26
G27	9058.06	. . . .	0.13	0.10	. . . .	0.27	0.58	1.04
G28	9050.08	. . . .	0.12	0.08	. . . .	0.19	0.43	0.81
G29	9042.11	. . . .	0.09	0.06	. . . .	0.11	0.30	0.58
G30	9033.43	. . . .	0.08	0.05	. . . .	0.07	0.22	0.42
G31	9025.21	. . . .	0.06	0.02	. . . .	0.03	0.14	0.28
G32	9018.40	. . . .	0.05	0.02	. . . .	0.01	0.10	0.20
G33	9006.13	. . . .	0.03	0.01	. . . .	-0.01	0.07	0.13
G34	8995.21	. . . .	0.03	0.01	. . . .	-0.02	0.05	0.10
G35	8981.85	. . . .	0.05	0.00	. . . .	-0.04	0.02	0.06
SG35	8974.89	. . . .	0.01	-0.02	. . . .	-0.06	0.00	0.04
G36	8964.21	. . . .	0.06	0.01	. . . .	-0.04	0.02	0.05
SG36	8956.26	. . . .	0.02	-0.02	. . . .	-0.07	-0.01	0.02
G37	8945.34	. . . .	0.07	0.02	. . . .	-0.03	0.02	0.06
SG37	8937.39	. . . .	-0.01	-0.05	. . . .	-0.09	-0.04	-0.00
G38	8930.39	. . . .	0.06	0.02	. . . .	-0.04	0.01	0.05
SG38	8923.44	. . . .	-0.05	-0.07	. . . .	-0.12	-0.06	-0.04
G39	8916.86	. . . .	-0.00	-0.03	. . . .	-0.08	-0.03	0.00
SG39	8913.78	. . . .	-0.02	-0.06	. . . .	-0.12	-0.07	-0.03
G40	8908.02	. . . .	0.02	-0.01	. . . .	-0.06	0.00	0.03
SG40	8902.15	. . . .	-0.02	-0.06	. . . .	-0.12	-0.06	-0.03
G41	8892.67	. . . .	0.02	-0.03	. . . .	-0.09	-0.03	0.00
SG41	8886.58	. . . .	-0.02	-0.08	. . . .	-0.13	-0.08	-0.05
G42	8877.43	. . . .	0.02	-0.04	. . . .	-0.10	-0.05	-0.01
SG42	8872.97	. . . .	-0.05	-0.10	. . . .	-0.16	-0.11	-0.08
G43	8863.93	. . . .	0.01	-0.06	. . . .	-0.12	-0.07	-0.03
SG43	8861.41	. . . .	-0.06	-0.13	. . . .	-0.19	-0.14	-0.10
G44	8858.04	. . . .	-0.00	-0.07	. . . .	-0.13	-0.09	-0.04
SG44	8859.48	. . . .	-0.09	-0.13	. . . .	-0.18	-0.13	-0.09
G45	8859.54	. . . .	0.01	-0.05	. . . .	-0.10	-0.06	-0.01
G46	8872.66	. . . .	-0.00	-0.06	. . . .	-0.12	0.01	-0.03
G47	8884.46	. . . .	-0.01	-0.07	. . . .	-0.14	-0.01	-0.04
G48	8898.13	. . . .	0.02	-0.04	. . . .	-0.11	0.02	-0.02
G49	8913.06	. . . .	0.03	-0.03	. . . .	-0.09	0.03	-0.02
G50	8927.28	. . . .	0.06	-0.06	. . . .	-0.11	0.01	-0.03

DEER CREEK SUBSIDENCE PROJECT LISTING OF ELEVATION

STATION NAME	BASE DATE BASE FILE	DIFFERENCES BY DATES : 11/03/1982 J + T : L	06/28/1983 J + T : L	08/08/1983 J + T : L	09/16/1983 J + T: L
DC1	8994.68	. . . .	. . . .	. . . .	. . . .
DC2	8955.53	. . . .	. . . .	. . . .	. . . .
BM1	9025.91	0.00	0.00	0.00	0.00
BM2	9159.51	5.31	5.81	5.81	5.86
BM3	9188.67	4.30	4.90	4.90	4.97
BM4	9104.14	-0.07	-0.07	0.02	-0.03
BM5	9096.70	-0.11	0.07	0.10	0.09
BM6	8943.36	0.52	0.71	0.73	0.79
BM7	9106.90	-0.08	-0.08	0.00	-0.04
BM8	8980.15	-0.03	0.03	0.01	0.04
BM9	8961.81	-0.09	-0.08	-0.06	. . . .
BM10	9067.32	. . . .	1.29	1.81	2.36
NCP0	. . . .	. . . .	. . . .	. . . .	. . . .
NCP1	. . . .	. . . .	. . . .	. . . .	. . . .
NCP2	. . . .	. . . .	. . . .	. . . .	. . . .
NCP3	. . . .	. . . .	. . . .	. . . .	. . . .
NCP4	. . . .	. . . .	. . . .	. . . .	. . . .
NCP5	. . . .	. . . .	. . . .	. . . .	. . . .
NCP6	. . . .	. . . .	. . . .	. . . .	. . . .
NCP7	. . . .	. . . .	. . . .	. . . .	. . . .
NCP8	. . . .	. . . .	. . . .	. . . .	. . . .
NCP9	. . . .	. . . .	. . . .	. . . .	. . . .
C1	8998.65	0.11	0.13	0.12	0.13
C2	8988.15	0.13	0.16	0.15	0.17
C3	8978.20	0.14	0.20	0.18	0.20
C4	8971.85	0.17	. . . .	0.69	0.72
C5	8970.99	0.20	0.25	0.22	0.25
C6	8976.02	0.17	0.24	0.22	0.25
C7	8984.61	0.22	0.30	0.28	0.31
C8	8990.13	0.23	0.31	0.30	0.34
C9	8993.46	0.28	0.37	0.36	0.40
C10	8997.67	0.33	0.38	0.38	0.42
C11	9001.98	0.44	0.56	0.59	0.62
C12	9008.04	0.69	0.88	0.94	0.99
C13	9017.60	1.75	2.33	2.53	2.65
C14	9030.62	1.98	2.58	2.84	3.01
C15	9054.08	2.23	2.90	3.14	3.33
C16	9076.04	2.49	3.17	3.40	3.63
C17	9096.46	2.90	3.59	3.82	4.09
C18	9120.88	3.16	3.80	4.06	4.36

DEER CREEK SUBSIDENCE PROJECT LISTING OF ELEVATION

STATION NAME	BASE DATE BASE FILE	DIFFERENCES BY DATES : 11/03/1982 J + T : L	06/28/1983 J + T : L	08/08/1983 J + T : L	09/16/1983 J + T: L
C19	9137.26	3.35	3.99	4.21	4.54
C20	9152.74	3.42	4.05	4.28	4.62
C21	9166.18	3.44	4.09	4.29	4.64
C22	9173.53	3.51	4.18	4.35	4.70
C23	9175.25	3.56	4.23	4.39	4.74
C24	9170.81	3.57	4.27	4.42	4.76
C25	9170.54	3.55	4.24	4.36	4.67
C26	9181.64	3.50	4.20	4.32	4.63
C27	9188.24	3.47	4.21	4.31	4.58
C28	9187.66	3.47	4.16	4.25	4.53
C29	9189.62	3.40	4.12	4.20	4.44
C30	9190.13	3.46	4.18	4.24	4.45
C31	9193.08	3.25	3.98	4.03	4.22
C32	9188.37	3.18	3.88	3.93	4.09
C33	9187.61	2.89	3.55	3.60	3.76
C34	9183.94	2.33	2.89	2.94	3.08
C35	9179.18	1.70	2.08	2.13	2.24
C36	9178.90	1.36	1.64	1.66	1.72
C37	9178.13	0.88	1.06	1.07	1.12
C38	9175.22	0.71	0.85	0.86	0.89
C39	9170.81	0.51	0.63	0.63	0.66
C40	9162.20	0.35	0.44	0.44	0.47
C41	9148.84	0.26	0.34	0.34	0.37
C42	9135.52	0.19	0.23	0.22	0.25
C43	9125.00	0.06	0.06	0.05	0.10
C44	9117.09	-0.02	0.02	-0.01	0.03
C45	9105.25	-0.07	-0.01	-0.04	0.00
C46	9084.48	-0.04	-0.03	-0.05	0.01
C47	9065.21	0.04	0.08	0.05	0.10
C48	9046.81	-0.10	-0.08	-0.11	-0.05
C49	9028.02	-0.01	0.03	-0.01	0.06
C50	9004.20	-0.09	-0.06	-0.10	-0.04
P16	9203.57	1.76	2.21	2.34	2.88
P15	9197.23	2.09	2.63	2.77	3.31
P14	9194.67	2.45	3.11	3.23	3.74
P13	9191.28	2.94	3.68	3.80	4.23
P12	9183.72	4.08	4.73	4.81	4.99
P11	9180.58	4.36	4.95	5.00	5.11
P10	9176.25	4.55	5.10	5.14	5.21
P9	9171.03	4.74	5.27	5.30	5.37

DEER CREEK SUBSIDENCE PROJECT LISTING OF ELEVATION

STATION NAME	BASE DATE BASE FILE	DIFFERENCES BY DATES : 11/03/1982 J + T : L	06/28/1983 J + T : L	08/08/1983 J + T : L	09/16/1983 J + T: L
P8	9165.59	4.88	5.37	5.39	5.46
P7	9160.70	5.21	5.69	5.70	5.76
P6	9159.07	5.32	5.81	5.81	5.89
P5	9160.44	5.24	5.75	5.75	5.81
P4	9157.80	5.13	5.66	5.65	5.69
P3	9154.42	5.01	5.57	5.58	5.62
P2	9151.12	4.69	5.41	5.42	5.45
P1	9143.31	4.25	5.14	5.17	5.20
P17	9129.72	3.64	4.76	4.86	4.90
P18	9114.29	3.34	4.59	4.68	4.75
P19	9100.43	2.96	4.42	4.50	4.55
P20	9089.13	2.63	4.25	4.31	4.37
P21	9074.91	2.07	3.91	3.96	4.04
P22	9061.37	1.54	3.46	3.50	3.59
P23	9048.42	0.94	2.79	2.89	2.93
P24	9042.63	0.53	2.19	2.29	2.34
P25	9038.54	0.33	1.87	1.97	2.01
SP25	9039.18	0.20	1.67	1.78	1.81
P26	9036.75	0.21	1.62	1.73	1.76
SP26	9036.84	0.12	1.40	1.51	1.55
P27	9035.61	0.16	1.29	1.39	1.43
SP27	9033.56	0.08	1.02	1.12	1.17
P28	9027.03	0.11	0.86	0.95	1.00
SP28	9020.71	0.05	0.62	0.70	0.76
SP29	9014.04	0.04	0.55	0.62	0.67
SP30	9007.47	0.03	0.43	0.49	0.54
SP31	9000.30	0.02	0.33	0.39	0.44
SP32	8991.51	0.01	0.25	0.30	0.35
SP33	8979.06	0.01	0.20	0.24	0.30
SP34	8966.51	0.01	0.16	0.20	0.26
SP35	8954.85	-0.01	0.10	0.13	0.19
SP36	8945.07	0.00	0.09	0.12	0.19
SP37	8937.55	-0.00	0.11	0.13	0.20
SP38	8932.96	-0.01	0.07	0.09	0.17
SP39	8929.45	-0.02	0.06	0.07	0.15
SP40	8926.20	-0.02	0.03	0.05	0.13
SP41	8923.56	-0.02	0.04	0.06	0.13
SP42	8922.57	-0.03	-0.00	0.01	0.09
SP43	8922.02	-0.03	-0.00	0.01	0.09
SP44	8921.65	-0.03	-0.02	-0.01	0.07

DEER CREEK SUBSIDENCE PROJECT LISTING OF ELEVATION

STATION NAME	BASE DATE BASE FILE	DIFFERENCES BY DATES : 11/03/1982 J + T : L	06/28/1983 J + T : L	08/08/1983 J + T : L	09/16/1983 J + T: L
SP45	8921.35	-0.04	-0.03	-0.02	0.06
D1	8960.18	0.08	0.10	0.08	0.15
D2	8953.04	0.10	0.16	0.15	0.21
D3	8949.27	0.14	0.18	0.18	0.23
D4	8949.94	0.18	0.19	0.18	0.25
D5	8957.29	0.18	0.22	0.21	0.26
D6	8967.44	0.21	0.25	0.25	0.30
D7	8975.26	0.22	0.26	0.26	0.30
D8	8983.90	0.28	0.33	0.32	0.36
D9	8990.92	0.51	0.57	0.57	0.60
D10	8999.20	0.72	0.82	0.84	0.88
D11	9007.03	1.48	1.74	1.79	1.85
D12	9016.69	2.10	2.52	2.62	2.71
D13	9029.19	2.22	2.74	2.90	3.04
A1	9015.87	1.40	1.91	2.04	2.18
A2	9014.25	1.51	1.94	2.06	2.17
A3	9009.87	1.69	2.04	2.12	2.21
A4	9004.22	1.62	1.86	1.91	1.99
A5	9001.00	0.69	0.78	0.81	0.86
A6	8998.65	0.73	0.82	0.84	0.89
A7	8993.71	0.76	0.85	0.86	0.91
A8	8991.47	0.64	0.72	0.74	0.79
B1	9173.78	0.66	0.80	0.82	0.86
B2	9170.78	0.69	0.84	0.86	0.90
B3	9158.29	0.79	0.96	0.97	1.02
B4	9141.32	0.72	0.91	0.91	0.97
B5	9124.50	0.75	0.96	0.96	1.02
B6	9111.43	0.64	0.86	0.86	0.93
B7	9095.66	0.72	0.97	0.96	1.04
E1	9008.16	-0.01	0.01	0.00	0.01
E2	8997.85	-0.01	0.02	0.01	0.01
E3	8987.42	-0.01	-0.00	-0.01	0.01
E4	8977.75	-0.04	0.01	-0.00	0.01
E5	8968.10	-0.02	0.03	0.01	0.03
E6	8959.71	-0.03	0.01	-0.01	0.01
E7	8954.73	-0.00	0.05	0.04	0.06
E8	8957.98	0.00	0.05	0.05	0.07
E9	8959.92	0.02	0.08	0.08	0.09
E10	8960.97	0.06	0.10	0.10	0.13
E11	8967.90	0.13	0.19	0.18	0.21

DEER CREEK SUBSIDENCE PROJECT LISTING OF ELEVATION

STATION NAME	BASE DATE BASE FILE	DIFFERENCES BY DATES : 11/03/1982 J + T : L	06/28/1983 J + T : L	08/08/1983 J + T : L	09/16/1983 J + T: L
E12	8983.37	0.42	0.52	0.51	0.54
E13	8993.84	0.75	0.87	0.88	0.91
E14	9007.06	2.06	2.28	2.32	2.37
E15	9029.96	2.54	2.77	2.80	2.85
E16	9055.05	2.82	3.07	3.12	3.17
E17	9076.10	3.08	3.35	3.38	3.43
E18	9094.27	3.40	3.64	3.69	3.75
E19	9104.22	3.63	3.89	3.93	3.97
E20	9105.05	3.79	4.07	4.11	4.17
E21	9118.34	3.91	4.25	4.28	4.34
E22	9129.72	4.06	4.42	4.45	4.52
E23	9140.18	4.20	4.59	4.62	4.68
E24	9147.95	4.33	4.76	4.79	4.85
E25	9154.02	4.46	4.90	4.94	5.00
E26	9157.11	4.53	5.01	5.04	5.09
E27	9159.69	4.62	5.11	5.13	5.20
E28	9161.39	4.67	5.19	5.21	5.28
E29	9159.70	4.38	4.93	4.94	5.02
E30	9155.41	4.34	4.95	4.96	5.02
E31	9148.90	4.22	4.82	4.81	4.88
E32	9141.48	3.99	4.66	4.65	4.72
E33	9134.71	3.72	4.45	4.43	4.49
E34	9125.08	3.10	3.85	3.83	3.90
E35	9116.50	2.31	2.97	2.94	3.01
E36	9112.04	1.49	1.96	1.93	2.00
E37	9105.12	0.88	1.22	1.20	1.27
E38	9090.76	0.55	0.83	0.81	0.87
E39	9075.68	0.32	0.59	0.57	0.62
E40	9065.14	0.25	0.48	0.46	0.51
E41	9051.25	0.15	0.36	0.34	0.40
E42	9040.70	0.16	0.37	0.35	0.40
E43	9034.43	0.03	0.22	0.19	0.24
E44	9031.28	0.06	0.25	0.22	0.25
E45	9025.88	0.03	0.17	0.15	0.20
E46	9006.92	0.00	0.14	0.12	0.15
E47	8988.15	0.00	0.09	0.08	0.11
E48	8971.80	-0.04	0.09	0.08	0.09
E49	8951.26	-0.02	0.05	0.04	0.03
E50	8942.68	0.00	0.04	0.04	0.05
F1	9023.07	-0.04	0.06	0.05	0.04

DEER CREEK SUBSIDENCE PROJECT LISTING OF ELEVATION

STATION NAME	BASE DATE BASE FILE	DIFFERENCES BY DATES : 11/03/1982 J + T : L	06/28/1983 J + T : L	08/08/1983 J + T : L	09/16/1983 J + T: L
F2	9008.49	-0.03	0.08	0.06	0.06
F3	8995.51	-0.02	0.08	0.06	0.05
F4	8982.79	-0.02	0.10	0.07	0.06
F5	8970.51	-0.01	0.09	0.06	0.08
F6	8956.47	0.02	0.11	0.08	0.10
F7	8945.05	0.04	0.13	0.09	0.11
F8	8931.96	0.06	0.15	0.10	0.12
F9	8924.71	0.08	0.18	0.13	0.17
F10	8926.09	0.07	0.19	0.14	0.15
F11	8941.36	0.11	0.21	0.17	0.20
F12	8955.26	0.21	0.30	0.28	0.32
F13	8966.19	0.49	0.63	0.60	0.63
F14	8978.04	1.53	1.80	1.81	1.86
F15	9000.47	2.18	2.52	2.55	2.62
F16	9026.33	2.55	2.94	2.97	3.02
F17	9061.13	3.10	3.53	3.57	3.63
F18	9081.04	3.82	4.27	4.33	4.39
F19	9093.32	4.44	4.90	4.96	5.02
F20	9099.94	4.67	5.16	5.23	5.26
F21	9107.45	4.74	5.23	5.31	5.35
F22	9114.79	4.68	5.24	5.32	5.37
F23	9120.92	4.55	5.19	5.28	5.31
F24	9124.11	4.40	5.14	5.23	5.26
F25	9125.36	4.28	5.08	5.17	5.21
F26	9128.82	4.10	4.97	5.08	5.14
F27	9137.33	3.89	4.96	5.05	5.10
F28	9143.67	3.68	4.91	5.02	5.05
F29	9142.21	3.43	4.87	4.97	5.00
F30	9133.76	3.13	4.82	4.91	4.96
F31	9121.28	2.72	4.67	4.76	4.81
F32	9108.36	2.38	4.50	4.59	4.66
F33	9093.02	1.97	4.15	4.23	4.29
F34	9083.37	1.60	3.55	3.63	3.70
F35	9075.64	1.14	2.60	2.68	2.75
F36	9070.91	0.84	1.78	1.85	1.92
F37	9057.40	0.54	1.17	1.24	1.32
F38	9039.82	0.36	0.85	0.90	0.99
F39	9027.80	0.30	0.67	0.73	0.82
F40	9008.94	0.20	0.53	0.56	0.66
F41	8989.27	0.18	0.43	0.46	0.56

DEER CREEK SUBSIDENCE PROJECT LISTING OF ELEVATION

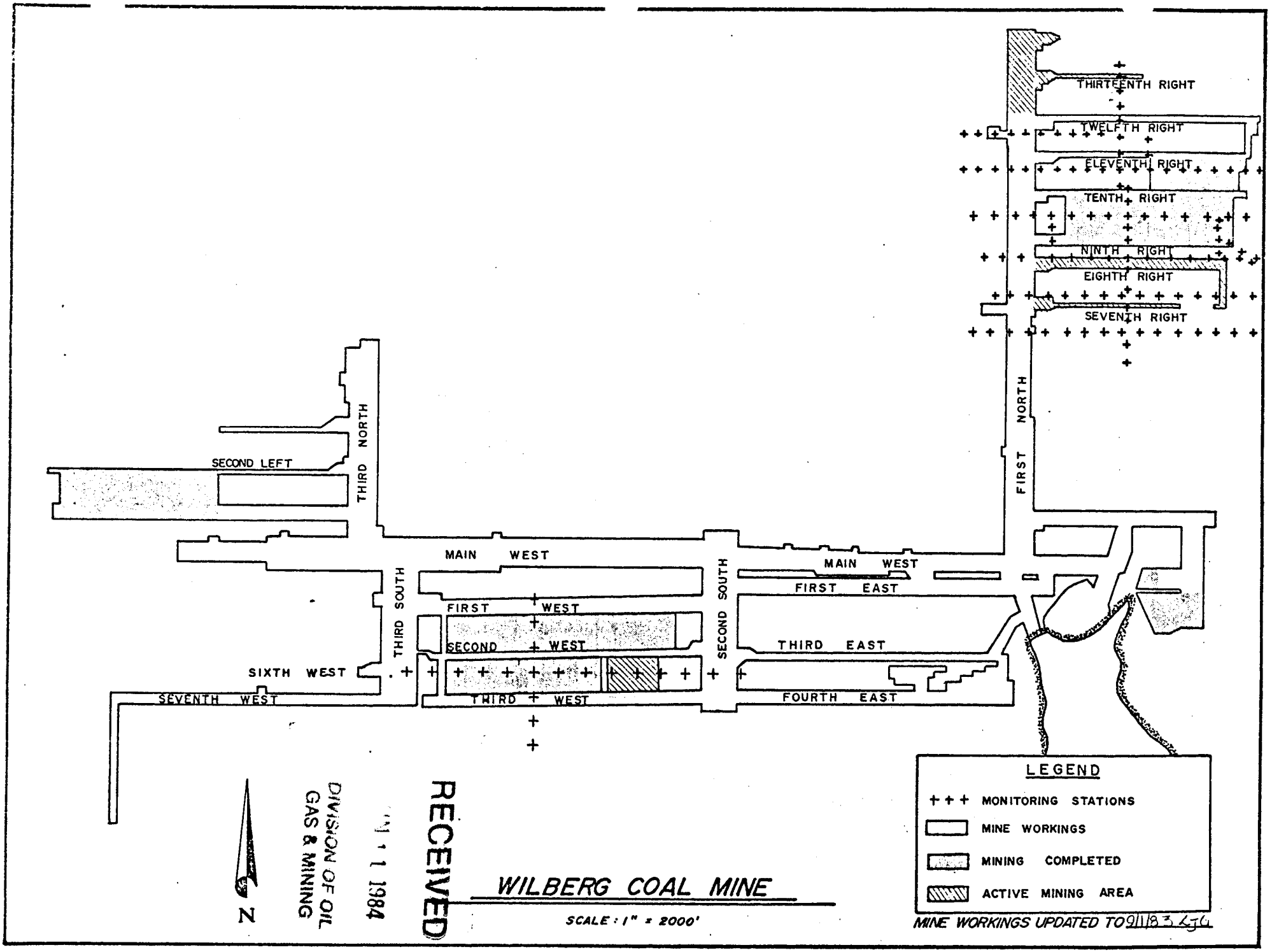
STATION NAME	BASE DATE BASE FILE	DIFFERENCES BY DATES : 11/03/1982 J + T : L	06/28/1983 J + T : L	08/08/1983 J + T : L	09/16/1983 J + T: L
F42	8973.19	0.10	0.35	0.37	0.48
F43	8952.18	0.06	0.33	0.32	0.43
F44	8931.29	0.04	0.28	0.27	0.38
F45	8911.66	0.02	0.24	0.20	0.33
F46	8893.75	0.02	0.22	0.19	0.31
F47	8889.64	-0.05	0.08	0.03	0.15
G1	9017.27	-0.04	-0.02	0.41	0.46
G2	9010.00	-0.03	0.20	0.22	0.26
G3	8996.96	-0.01	0.11	0.13	0.18
G4	8986.77	-0.02	0.10	0.10	0.16
G5	8979.31	-0.02	0.08	0.09	0.14
SG5	8974.82	-0.06	0.04	0.05	0.10
G6	8968.83	-0.00	0.09	0.09	0.15
SG6	8964.78	-0.05	0.02	0.03	0.08
G7	8957.86	-0.00	0.06	0.08	0.13
SG7	8951.87	-0.06	0.00	0.01	0.07
G8	8940.86	-0.00	0.09	0.09	0.15
SG8	8931.87	-0.04	0.03	0.03	0.09
G9	8920.29	0.04	0.11	0.11	0.18
SG9	8911.38	-0.03	0.04	0.04	0.11
G10	8904.15	0.07	0.16	0.16	0.22
SG10	8900.79	-0.04	0.03	0.04	0.12
G11	8897.67	0.15	0.23	0.24	0.31
SG11	8906.63	0.09	0.20	0.22	0.28
G12	8916.99	0.23	0.36	0.38	0.44
SG12	8929.77	0.23	0.37	0.41	0.47
G13	8939.73	0.47	0.69	0.71	0.76
SG13	8949.34	0.73	1.01	1.05	1.12
G14	8956.60	1.13	1.57	1.61	1.67
SG14	8970.00	1.25	1.74	1.80	1.85
G15	8986.45	1.44	1.97	2.02	2.06
G16	9020.60	1.53	2.10	2.17	2.23
G17	9049.24	1.61	2.29	2.37	2.40
G18	9068.76	1.78	2.62	2.71	2.73
G19	9080.04	1.95	2.96	3.05	3.06
G20	9086.97	2.05	3.23	3.33	3.34
G21	9090.12	2.11	3.42	3.50	3.52
G22	9085.88	2.04	3.44	3.54	3.56
G23	9082.52	1.93	3.46	3.57	3.58
G24	9079.10	1.83	3.47	3.56	3.60

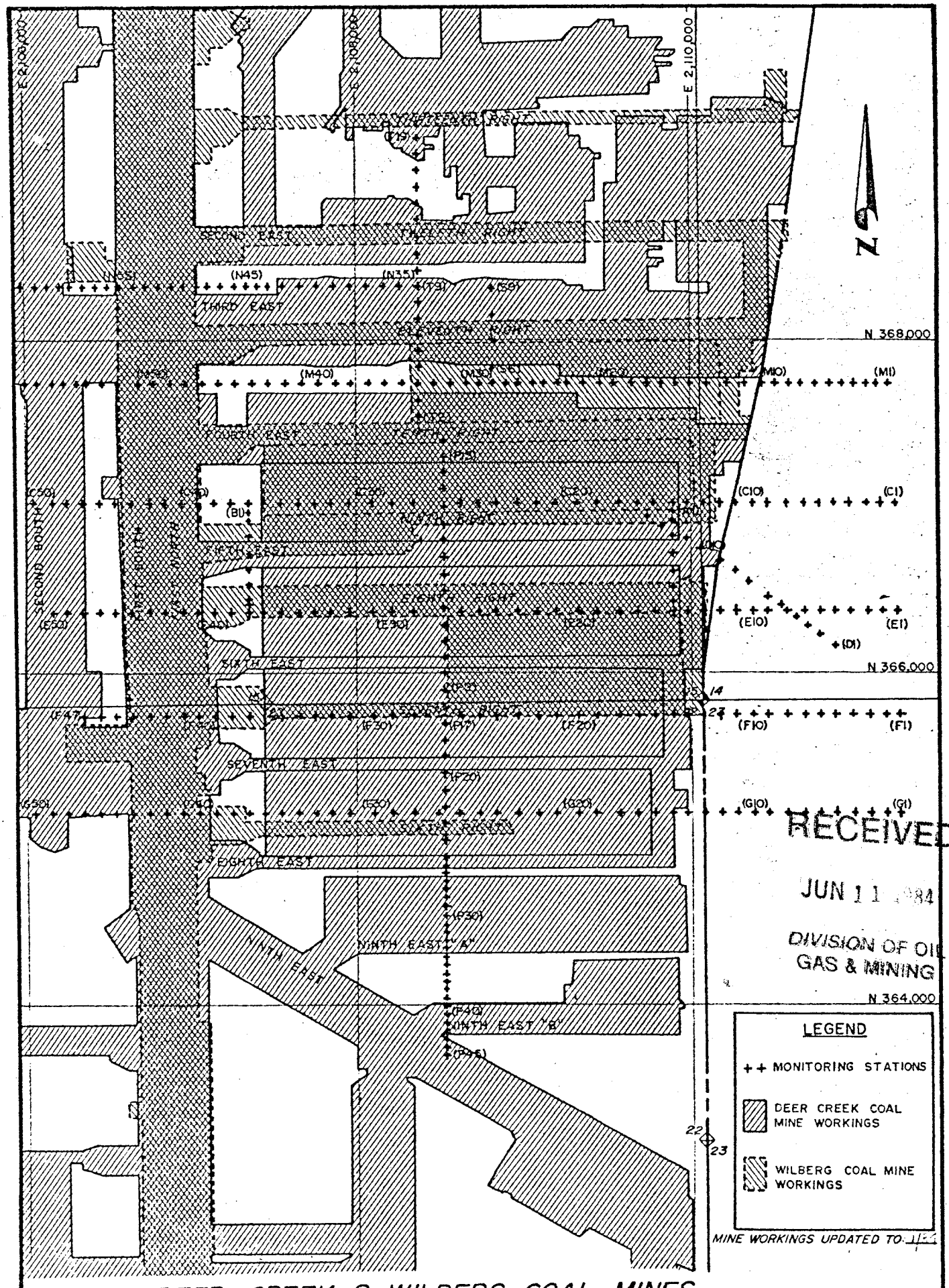
DEER CREEK SUBSIDENCE PROJECT LISTING OF ELEVATION

STATION NAME	BASE DATE BASE FILE	DIFFERENCES BY DATES : 11/03/1982 J + T : L	06/28/1983 J + T : L	08/08/1983 J + T : L	09/16/1983 J + T: L
G25	9072.97	1.67	3.38	3.50	3.53
G26	9066.68	1.58	3.39	3.50	3.52
G27	9058.06	1.39	3.28	3.39	3.42
G28	9050.08	1.17	3.17	3.27	3.30
G29	9042.11	0.91	2.97	3.07	3.11
G30	9033.43	0.68	2.74	2.85	2.90
G31	9025.21	0.47	2.49	2.59	2.65
G32	9018.40	0.33	2.23	2.33	2.39
G33	9006.13	0.21	1.95	2.05	2.11
G34	8995.21	0.14	1.55	1.64	1.70
G35	8981.85	0.08	1.21	1.28	1.32
SG35	8974.89	0.05	0.99	1.07	1.12
G36	8964.21	0.06	0.85	0.91	0.96
SG36	8956.26	0.02	0.67	0.73	0.78
G37	8945.34	0.06	0.57	0.62	0.67
SG37	8937.39	-0.01	0.39	0.46	0.52
G38	8930.39	0.04	0.40	0.44	0.48
SG38	8923.44	-0.05	0.25	0.31	0.36
G39	8916.86	-0.01	0.23	0.27	0.33
SG39	8913.78	-0.04	0.19	0.21	0.27
G40	8908.02	0.01	0.19	0.23	0.31
SG40	8902.15	-0.05	0.16	0.19	0.25
G41	8892.67	-0.02	0.18	0.03	0.29
SG41	8886.58	-0.06	0.13	0.17	0.23
G42	8877.43	-0.04	0.16	0.19	0.25
SG42	8872.97	-0.10	0.07	0.11	0.18
G43	8863.93	-0.06	0.13	0.17	0.22
SG43	8861.41	-0.13	0.03	0.08	0.13
G44	8858.04	-0.08	0.03	0.08	0.13
SG44	8859.48	-0.12	0.00	0.05	0.11
G45	8859.54	-0.04	0.10	0.14	0.19
G46	8872.66	-0.06	0.08	0.13	0.16
G47	8884.46	-0.07	0.06	0.11	0.14
G48	8898.13	-0.06	0.03	0.09	0.12
G49	8913.06	-0.04	0.01	0.07	0.09
G50	8927.28	-0.06	0.01	0.07	0.10

APPENDIX

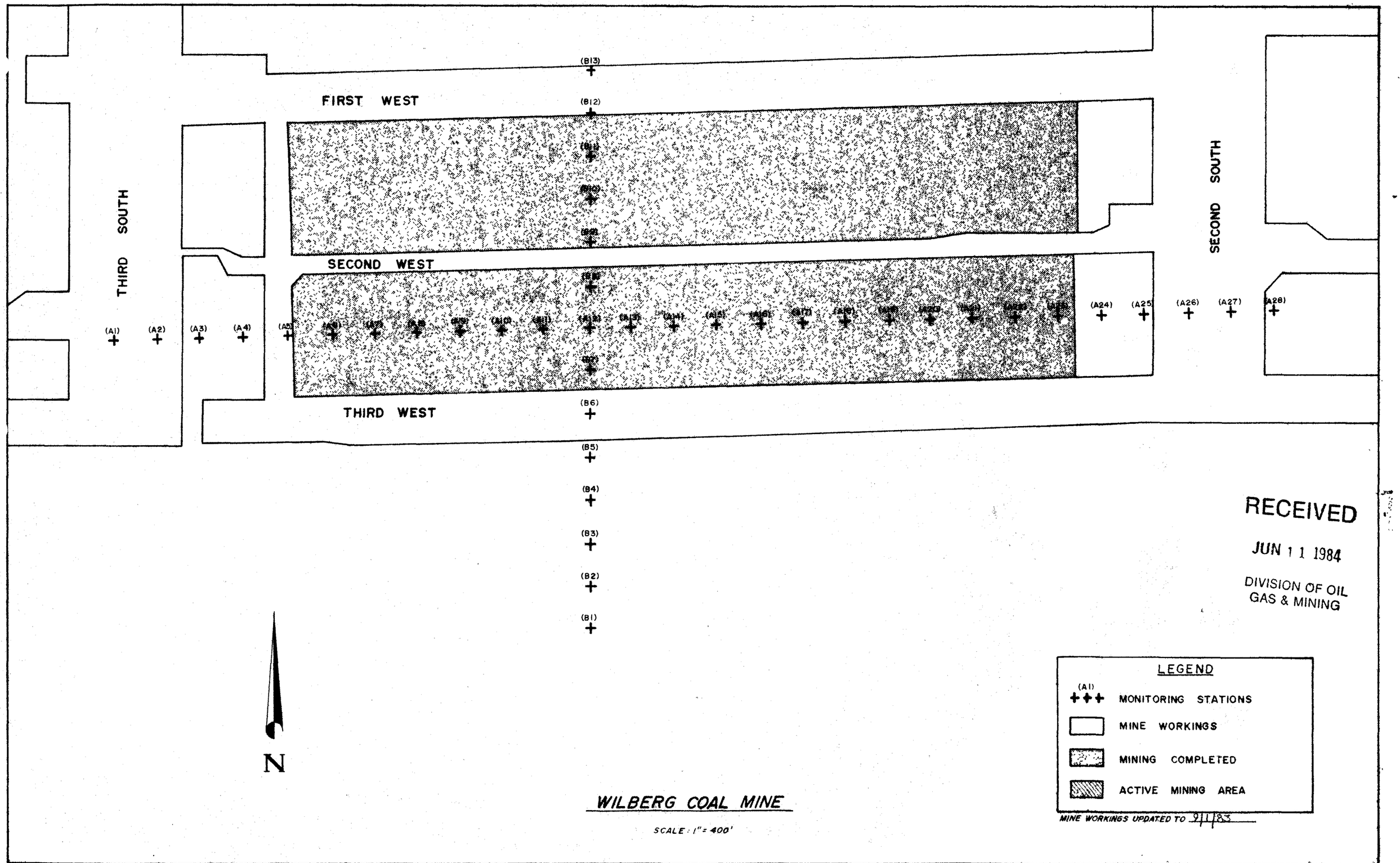
WILBERG MINE


THIRTEENTH RIGHT
TWELFTH RIGHT
ELEVENTH RIGHT
TENTH RIGHT
NINTH RIGHT
EIGHTH RIGHT
SEVENTH RIGHT
FIRST NORTH
THIRD NORTH
SECOND LEFT
MAIN WEST
MAIN WEST
FIRST EAST
THIRD SOUTH
SECOND SOUTH
FIRST WEST
SECOND WEST
THIRD EAST
SIXTH WEST
SEVENTH WEST
THIRD WEST
FOURTH EAST
LEGEND
MONITORING STATIONS
MINE WORKINGS
MINING COMPLETED
ACTIVE MINING AREA
N
WILBERG COAL MINE
SCALE: 1" = 2000'
MINE WORKINGS UPDATED TO 9/1/83 GJG
RECEIVED
DIVISION OF OIL GAS & MINING
1984

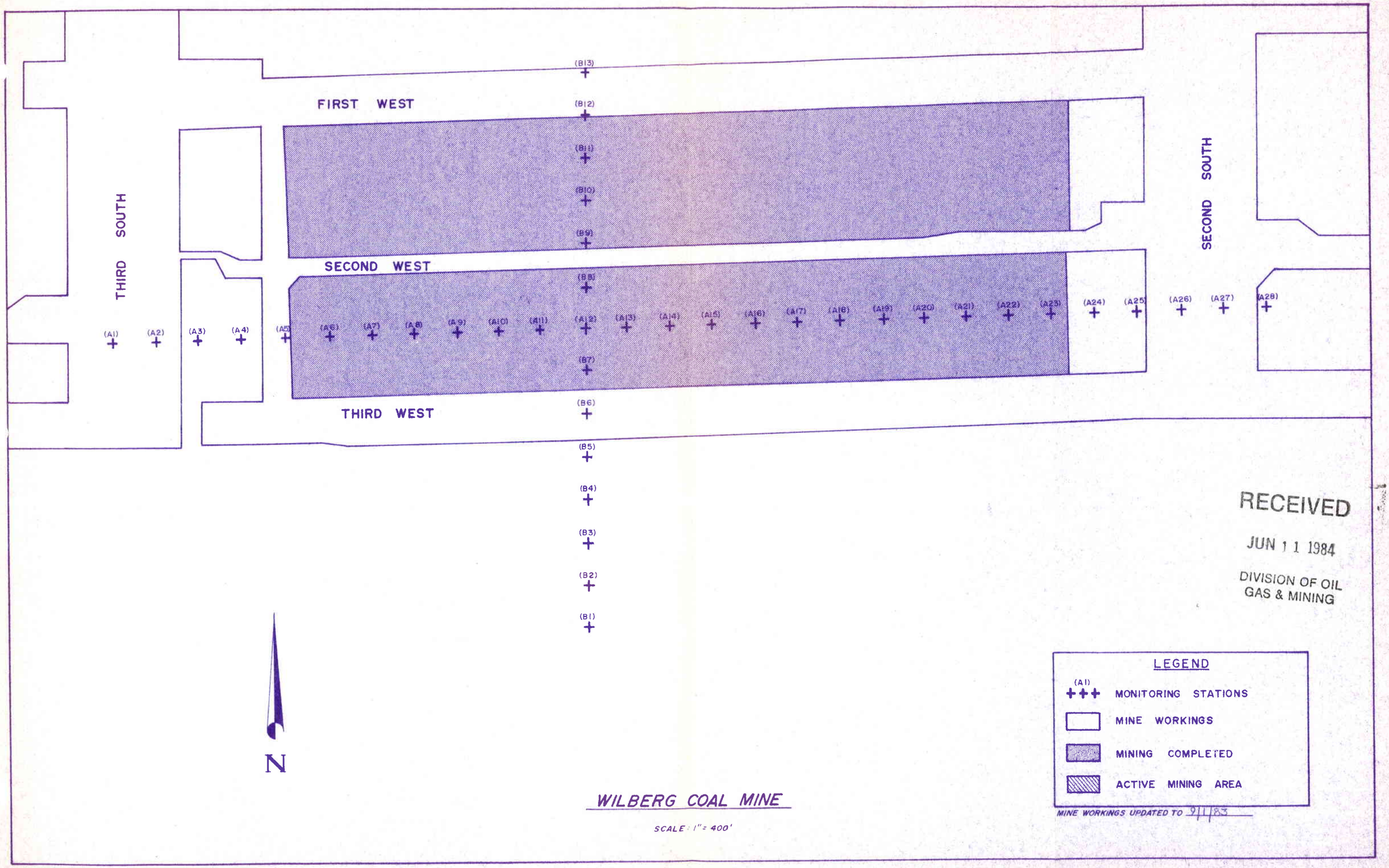


DEER CREEK & WILBERG COAL MINES

SCALE: 1" = 800'



RECEIVED
JUN 11 1984
DIVISION OF OIL
GAS & MINING



RECEIVED
JUN 11 1984
DIVISION OF OIL
GAS & MINING

ILBERG SUBSIDENCE PROJECT LISTING OF ELEVATI

STATION NAME	BASE DATE 09/17/1980 USBMO: L	DIFFERENCES BY DATES : 07/07/1981 USBMO: L	09/23/1981 USBMO: L	10/27/1981 USBMO: L	07/12/1982 USBMO: L	07/06/1983 USBMO: L	08/24/1983 USBMO: L	09/22/1983 USBMO: L
F2	9638.13	0.00	0.00	. . . .	0.00	0.00	0.00	0.00
BM2	9282.42	0.00	0.00	. . . .	0.00	. . . .	. . . .	. . . .
BM8	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
BM9	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
BM10	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
B1	9637.48	0.01	0.01	0.01	0.01	0.01	. . . .	. . . .
B2	9637.40	0.00	0.03	0.03	0.04	0.12	0.08	0.12
B3	9636.68	-0.00	0.05	0.04	0.05	0.18	0.15	0.19
B4	9635.25	0.00	0.09	0.08	0.09	0.30	0.26	0.30
B5	9633.91	-0.01	0.12	0.11	0.13	0.46	0.42	0.47
B6	9632.56	0.00	0.14	0.14	0.16	0.70	0.68	0.73
B7	9631.13	-0.01	0.17	0.17	0.18	1.17	1.15	1.20
B8	9626.92	0.00	0.18	0.17	0.18	2.43	2.44	2.50
B9	9624.58	-0.01	0.18	0.16	0.16	2.61	2.63	1.69
B10	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
B11	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
B12	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
B13	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
A1	9647.02	0.01	-0.03	-0.03	-0.04	-0.05	-0.07	-0.03
A2	9645.81	-0.02	-0.02	-0.02	-0.03	-0.00	-0.03	0.02
A3	9644.09	-0.00	-0.01	-0.01	-0.01	0.07	0.03	0.08
A4	9640.17	-0.01	0.03	0.02	0.03	0.17	0.14	0.19
A5	9636.54	-0.02	0.05	0.04	0.05	0.33	0.29	0.33
A6	9633.89	0.00	0.09	0.08	0.09	0.56	0.53	0.58
A7	9633.23	0.01	0.11	0.10	0.11	0.96	0.93	0.98
A8	9632.33	0.00	0.14	0.13	0.15	1.44	1.42	1.47
A9	9632.49	0.02	0.15	0.13	0.15	1.70	1.67	1.73
A10	9630.70	0.00	0.16	0.16	0.16	1.81	1.80	1.86
A11	9629.99	0.01	0.16	0.16	0.18	1.85	1.83	1.89
A12	9628.88	0.01	0.39	0.40	0.40	2.02	2.03	2.09
A13	9627.27	-0.01	0.17	0.16	0.17	1.72	1.72	1.78
A14	9624.34	0.00	0.13	0.16	0.17	1.51	1.52	1.58
A15	9621.75	0.01	0.12	0.13	0.15	1.22	1.23	1.29
A16	9617.33	-0.00	0.10	0.11	0.10	0.88	0.90	0.96
A17	9533.08	-0.02	0.01	. . . .	0.12	. . . .	. . . .	. . . .
A18	9459.85	-0.00	-0.01	. . . .	0.08	. . . .	. . . .	. . . .
A19	9400.86	-0.01	0.00	. . . .	0.06	. . . .	. . . .	. . . .
A20	9366.92	-0.01	0.00	. . . .	0.02	. . . .	. . . .	. . . .
A21	9331.97	-0.01	0.02	. . . .	0.01	. . . .	. . . .	. . . .
A22	9308.38	0.01	0.02	. . . .	0.01	. . . .	. . . .	. . . .

LISTING OF ELEVATION

SUBSIDENCE PROJECT

STATION NAME	WILBERG BASE DATE 09/17/1980 USBMO: L	DIFFERENCES BY DATES : 07/07/1981 USBMO: L	09/23/1981 USBMO: L	10/27/1981 USBMO: L	07/12/1982 USBMO: L	07/06/1983 USBMO: L	08/24/1983 USBMO: L	09/22/1983 USBMO: L
A23	9294.86	0.01	0.04	. . . .	-0.00	. . . .	. . . .	. . . .
A24	9280.90	-0.01	0.04	. . . .	-0.00	. . . .	. . . .	. . . .
A25	9242.48	0.01	0.02	. . . .	-0.05	. . . .	. . . .	. . . .
A26	9191.45	-0.03	0.03	. . . .	-0.07	. . . .	. . . .	. . . .
A27	9138.56	-0.01	0.02	. . . .	-0.07	. . . .	. . . .	. . . .
A28	9083.71	0.01	0.04	. . . .	-0.10	. . . .	. . . .	. . . .
M1	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
M2	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
M3	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
M4	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
M5	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
M6	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
M7	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
M8	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
M9	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
M10	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
M11	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
M12	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
M13	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
M14	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
M15	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
M16	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
M17	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
M18	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
M19	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
M20	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
M21	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
M22	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
M23	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
M24	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
M25	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
M26	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
M27	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
M28	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
M29	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
M30	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
M31	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
M32	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
M33	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .

2nd West W
and 11th R

WILBERG SUBSIDENCE PROJECT
BASE DATE DIFFERENCES BY DATES : LISTING OF ELEVATION

STATION NAME	07/15/1982 USBM : L	08/08/1983 J + T: L	08/22/1983 USBM : L	09/20/1983 USBM : L	09/12/1983 J + T: L
A23	. . . .	. . . .	. . . .	. . . .	. . . .
A24	. . . .	. . . .	. . . .	. . . .	. . . .
A25	. . . .	. . . .	. . . .	. . . .	. . . .
A26	. . . .	. . . .	. . . .	. . . .	. . . .
A27	. . . .	. . . .	. . . .	. . . .	. . . .
A28	. . . .	. . . .	. . . .	. . . .	. . . .
M1	8970.57	0.08	0.09	. . . .	0.12
M2	8963.07	0.10	0.11	. . . .	0.14
M3	8956.49	0.12	0.13	. . . .	0.15
M4	8949.65	0.12	0.13	. . . .	0.16
M5	8943.69	0.16	0.18	. . . .	0.20
M6	8939.49	-0.08	0.16	. . . .	0.19
M7	8936.49	0.18	0.19	. . . .	0.23
M8	8939.38	0.17	0.18	. . . .	0.20
M9	8945.42	0.12	0.15	. . . .	0.20
M10	8953.63	0.21	0.22	. . . .	0.25
M11	8962.77	0.24	0.25	. . . .	0.27
M12	8970.55	0.29	0.31	. . . .	0.33
M13	8977.47	0.39	0.41	. . . .	0.44
M14	8985.02	0.55	0.58	. . . .	0.62
M15	8994.98	0.97	1.05	. . . .	1.13
M16	9006.30	1.26	1.38	. . . .	1.49
M17	9024.23	1.36	1.50	. . . .	1.64
M18	9053.06	1.48	1.67	. . . .	1.83
M19	9072.41	1.47	1.70	. . . .	1.90
M20	9092.87	1.42	1.69	. . . .	1.96
M21	9120.58	1.34	1.63	. . . .	1.96
M22	9137.29	1.24	1.56	. . . .	1.92
M23	9149.41	1.15	1.48	. . . .	1.86
M24	9157.68	1.06	1.38	. . . .	1.78
M25	9165.07	0.98	1.30	. . . .	1.70
M26	9174.50	0.87	1.18	. . . .	1.58
M27	9185.51	0.78	1.07	. . . .	1.46
M28	9192.02	0.71	0.97	. . . .	1.34
M29	9198.46	0.63	0.88	. . . .	1.21
M30	9203.97	0.54	0.76	. . . .	1.06
M31	9208.54	0.66	0.69	. . . .	0.92
M32	9213.36	0.59	0.60	. . . .	0.77
M33	9217.36	0.50	0.52	. . . .	0.64
M34	9221.91	0.41	0.41	. . . .	0.48

WILBERG SUBSIDENCE PROJECT LISTING OF ELEVATION

STATION NAME	BASE DATE 07/15/1982 USBM : L	DIFFERENCES BY DATES : 08/08/1983 J + T: L	08/22/1983 USBM : L	09/20/1983 USBM : L	09/12/1983 J + T: L
M35	9230.36	0.40	0.38	. . . .	0.40
M36	9243.60	0.37	0.32	. . . .	0.30
M37	9255.35	0.35	0.29	. . . .	0.24
M38	9263.60	0.29	0.21	. . . .	0.15
M39	9264.29	0.27	0.18	. . . .	0.09
M40	9243.46	0.24	0.16	. . . .	0.05
M41	9216.93	0.20	0.11	. . . .	-0.01
M42	9194.21	0.19	0.10	. . . .	-0.01
M43	9183.30	0.14	0.05	. . . .	-0.07
M44	9172.13	0.09	0.01	. . . .	-0.12
M45	9158.34	0.10	0.01	. . . .	-0.13
M46	9141.58	0.09	-0.00	. . . .	-0.14
M47	9130.43	0.04	-0.04	. . . .	-0.18
M48	9122.01	0.02	-0.05	. . . .	-0.18
M49	9115.27	-0.05	-0.13	. . . .	-0.26
M50	9112.33	0.01	-0.06	. . . .	-0.19
M51	9110.83	-0.01	-0.07	. . . .	-0.20
M52	9109.36	-0.01	-0.06	. . . .	-0.19
M53	9109.19	-0.01	-0.09	. . . .	-0.21
M54	9112.33	-0.01	-0.09	. . . .	-0.22
M55	9114.53	-0.02	-0.10	. . . .	-0.24
M56	9117.61	-0.03	-0.11	. . . .	-0.25
M57	9124.05	-0.02	-0.11	. . . .	-0.25
M58	9127.00	-0.03	-0.11	. . . .	-0.27
M59	9129.60	-0.02	-0.11	. . . .	-0.26
M60	9131.83	-0.03	-0.12	. . . .	-0.28
M61	9132.92	-0.03	-0.12	. . . .	-0.27
R1	9200.61	0.54	0.74	. . . .	1.01
R2	9197.72	0.50	0.67	. . . .	0.88
R3	9195.69	0.46	0.61	. . . .	0.78
R4	9191.73	0.43	0.56	. . . .	0.69
R5	9187.40	0.38	0.49	. . . .	0.59
R6	9183.60	0.36	0.46	. . . .	0.52
R7	9179.94	0.33	0.42	. . . .	0.45
R8	9176.07	0.30	-0.63	. . . .	0.37
R9	9172.11	0.28	-0.66	. . . .	0.32
R10	. . . .	. . . .	. . . .	. . . .	. . . .
R11	. . . .	. . . .	. . . .	. . . .	. . . .
R12	. . . .	. . . .	. . . .	. . . .	. . . .
R13	. . . .	. . . .	. . . .	. . . .	. . . .

WILBERG SUBSIDENCE PROJECT LISTING OF ELEVATION

STATION NAME	BASE DATE 07/15/1982 USBM : L	DIFFERENCES BY DATES : 08/08/1983 J + T: L	08/22/1983 USBM : L	09/20/1983 USBM : L	09/12/1983 J + T: L
R14	. . . .	. . . .	. . . .	. . . .	. . . .
R15	. . . .	. . . .	. . . .	. . . .	. . . .
R16	. . . .	. . . .	. . . .	. . . .	. . . .
R17	. . . .	. . . .	. . . .	. . . .	. . . .
R18	. . . .	. . . .	. . . .	. . . .	. . . .
R19	. . . .	. . . .	. . . .	. . . .	. . . .
R20	. . . .	. . . .	. . . .	. . . .	. . . .
R21	. . . .	. . . .	. . . .	. . . .	. . . .
R22	. . . .	. . . .	. . . .	. . . .	. . . .
R23	. . . .	. . . .	. . . .	. . . .	. . . .
R24	. . . .	. . . .	. . . .	. . . .	. . . .
R25	. . . .	. . . .	. . . .	. . . .	. . . .
R26	. . . .	. . . .	. . . .	. . . .	. . . .
R27	. . . .	. . . .	. . . .	. . . .	. . . .
R28	. . . .	. . . .	. . . .	. . . .	. . . .
R29	. . . .	. . . .	. . . .	. . . .	. . . .
R30	. . . .	. . . .	. . . .	. . . .	. . . .
T1	9211.33	0.69	0.70	. . . .	0.83
T2	9215.45	0.60	0.61	. . . .	0.71
T3	9221.05	0.49	0.49	. . . .	0.58
T4	9218.13	0.40	0.38	. . . .	0.43
T5	9213.20	0.38	0.35	. . . .	0.38
T6	9208.05	0.35	0.31	. . . .	0.31
T7	9198.90	0.28	0.25	. . . .	0.24
T8	9190.38	0.26	0.23	. . . .	0.20
T9	9180.19	0.19	0.15	8128.83	0.12
T10	9175.18	0.14	0.10	8128.76	0.06
T11	. . . .	. . . .	9166.15	8128.62	. . . .
T12	. . . .	. . . .	9156.94	8128.59	. . . .
T13	. . . .	. . . .	9149.80	8128.57	. . . .
T14	. . . .	. . . .	9143.14	8128.57	. . . .
T15	. . . .	. . . .	9142.66	8128.53	. . . .
T16	. . . .	. . . .	9138.96	8128.53	. . . .
T17	. . . .	. . . .	9138.63	8128.52	. . . .
T18	. . . .	. . . .	9135.56	8128.52	. . . .
T19	. . . .	. . . .	9130.67	8128.52	. . . .
T20	. . . .	. . . .	9124.57	8128.54	. . . .
T21	. . . .	. . . .	. . . .	. . . .	. . . .
T22	. . . .	. . . .	. . . .	. . . .	. . . .
T23	. . . .	. . . .	. . . .	. . . .	. . . .

WILBERG SUBSIDENCE PROJECT LISTING OF ELEVATION

STATION NAME	BASE DATE 07/15/1982 USBM : L	DIFFERENCES BY DATES : 08/08/1983 J + T: L	08/22/1983 USBM : L	09/20/1983 USBM : L	09/12/1983 J + T: L
T24	. . . .	. . . .	. . . .	. . . .	. . . .
T25	. . . .	. . . .	. . . .	. . . .	. . . .
T26	. . . .	. . . .	. . . .	. . . .	. . . .
T27	. . . .	. . . .	. . . .	. . . .	. . . .
T28	. . . .	. . . .	. . . .	. . . .	. . . .
T29	. . . .	. . . .	. . . .	. . . .	. . . .
T30	. . . .	. . . .	. . . .	. . . .	. . . .
S1	9127.75	1.21	1.49	. . . .	1.78
S2	9154.75	1.03	1.33	. . . .	1.68
S3	9171.52	0.86	1.16	. . . .	1.52
S4	9187.49	0.68	0.94	. . . .	1.28
S5	9199.46	0.55	0.78	. . . .	1.06
S6	9194.83	0.56	0.76	. . . .	1.03
S7	9189.39	0.43	0.59	. . . .	0.76
S8	9182.62	0.41	0.53	. . . .	0.61
S9	9177.23	0.35	0.43	. . . .	0.45
S10	. . . .	. . . .	9200.84	8128.56	. . . .
S11	. . . .	. . . .	9192.23	8128.54	. . . .
S12	. . . .	. . . .	9180.55	8128.54	. . . .
S13	. . . .	. . . .	9174.49	8128.52	. . . .
S14	. . . .	. . . .	9170.52	8128.53	. . . .
S15	. . . .	. . . .	9165.26	8128.53	. . . .
S16	. . . .	. . . .	9160.76	8128.52	. . . .
S17	. . . .	. . . .	9154.55	8128.52	. . . .
S18	. . . .	. . . .	. . . .	. . . .	. . . .
S19	. . . .	. . . .	. . . .	. . . .	. . . .
S20	. . . .	. . . .	. . . .	. . . .	. . . .
S21	. . . .	. . . .	. . . .	. . . .	. . . .
S22	. . . .	. . . .	. . . .	. . . .	. . . .
S23	. . . .	. . . .	. . . .	. . . .	. . . .
S24	. . . .	. . . .	. . . .	. . . .	. . . .
S25	. . . .	. . . .	. . . .	. . . .	. . . .
S26	. . . .	. . . .	. . . .	. . . .	. . . .
S27	. . . .	. . . .	. . . .	. . . .	. . . .
S28	. . . .	. . . .	. . . .	. . . .	. . . .
S29	. . . .	. . . .	. . . .	. . . .	. . . .
S30	. . . .	. . . .	. . . .	. . . .	. . . .
N35	. . . .	. . . .	9185.87	8128.65	. . . .
N36	. . . .	. . . .	9189.65	8128.63	. . . .
N37	. . . .	. . . .	9198.38	8128.64	. . . .

WILBERG SUBSIDENCE PROJECT LISTING OF ELEVATION

BASE DATE DIFFERENCES BY DATES :

STATION NAME	07/15/1982 USBM : L	08/08/1983 J + T: L	08/22/1983 USBM : L	09/20/1983 USBM : L	09/12/1983 J + T: L
N38	. . . .	. . . .	9201.25	8128.61	. . . .
N39	. . . .	. . . .	9202.77	8128.60	. . . .
N40	. . . .	. . . .	9204.16	8128.59	. . . .
N41	. . . .	. . . .	9201.97	8128.57	. . . .
N42	. . . .	. . . .	9197.70	8128.57	. . . .
N43	. . . .	. . . .	9193.89	8128.56	. . . .
N44	. . . .	. . . .	9190.81	8128.55	. . . .
N45	. . . .	. . . .	9185.34	8128.53	. . . .
N46	. . . .	. . . .	9180.88	8128.54	. . . .
N47	. . . .	. . . .	9177.66	8128.53	. . . .
N48	. . . .	. . . .	9175.42	8128.53	. . . .
N49	. . . .	. . . .	9173.78	8128.52	. . . .
N50	. . . .	. . . .	9171.73	8128.53	. . . .
N51	. . . .	. . . .	9169.25	8128.52	. . . .
N52	. . . .	. . . .	9166.75	8128.52	. . . .
N53	. . . .	. . . .	9164.02	8128.52	. . . .
N54	. . . .	. . . .	9159.86	8128.53	. . . .
N55	. . . .	. . . .	9155.59	8128.51	. . . .
N56	. . . .	. . . .	9151.04	8128.52	. . . .
N57	. . . .	. . . .	9148.43	8128.53	. . . .
N58	. . . .	. . . .	9146.13	8128.51	. . . .
N59	. . . .	. . . .	9144.68	8128.51	. . . .
N60	. . . .	. . . .	9142.92	8128.52	. . . .
N61	. . . .	. . . .	9141.08	8128.52	. . . .
N62	. . . .	. . . .	9140.77	8128.51	. . . .
N63	. . . .	. . . .	9137.49	8128.52	. . . .
N64	. . . .	. . . .	9134.30	8128.52	. . . .
N65	. . . .	. . . .	9128.51	8128.51	. . . .
N66	. . . .	. . . .	. . . .	. . . .	. . . .
N67	. . . .	. . . .	. . . .	. . . .	. . . .
N68	. . . .	. . . .	. . . .	. . . .	. . . .
N69	. . . .	. . . .	. . . .	. . . .	. . . .
N70	. . . .	. . . .	. . . .	. . . .	. . . .
Z1	. . . .	. . . .	9264.62	. . . .	. . . .
Z2	. . . .	. . . .	9265.02	. . . .	. . . .
Z3	. . . .	. . . .	9263.98	. . . .	. . . .
Z4	. . . .	. . . .	9264.59	. . . .	. . . .
Z5	. . . .	. . . .	9264.50	. . . .	. . . .
Z6	. . . .	. . . .	9264.54	. . . .	. . . .
Z7	. . . .	. . . .	9255.29	. . . .	. . . .

WILBERG SUBSIDENCE PROJECT LISTING OF ELEVATION

STATION NAME	BASE DATE 07/15/1982 USBM : L	DIFFERENCES BY DATES : 10/21/1982 USBM : L	11/03/1982 J + T: L	06/21/1983 USBM : L	07/06/1983 USBM : L	07/07/1983 USBM : L	07/26/1983 USBM : L	07/26/1983 USBM : L
Z8	. . . .	. . . .	. . . .	. . . .	. . . .	9247.76	0.05	0.05
Z9	. . . .	. . . .	. . . .	. . . .	. . . .	9252.73	0.05	0.05
Z10	. . . .	. . . .	. . . .	. . . .	. . . .	9253.11	0.04	0.04
Z11	. . . .	. . . .	. . . .	. . . .	. . . .	9251.29	0.04	0.04
Z12	. . . .	. . . .	. . . .	. . . .	. . . .	9252.85	0.04	0.04

SELECT LISTING OPTION DESIRED,
,
1 EASTINGS AND NORTHINGS,
2 ELEVATIONS ONLY,
3 ALL COORDINATES,
4 END ,4

END OF SUB-LISTING,
MULTIPLE FORMAT LISTING,
,

OPTION NUMBER	DESCRIPTION,
1	SINGLE SURVEY LISTING,
2	MULTIPLE SURVEY LISTING,
3	SUB-LIST,
4	COMPARISON OF TWO SURVEYS,
5	UPDATE COORDINATE VALUES ,
6	ADD OR UPDATE SURVEY TITLES,
7	ADD STATION NAMES TO FILE,
8	CHANGE DATA FILES,
9	END SESSION,

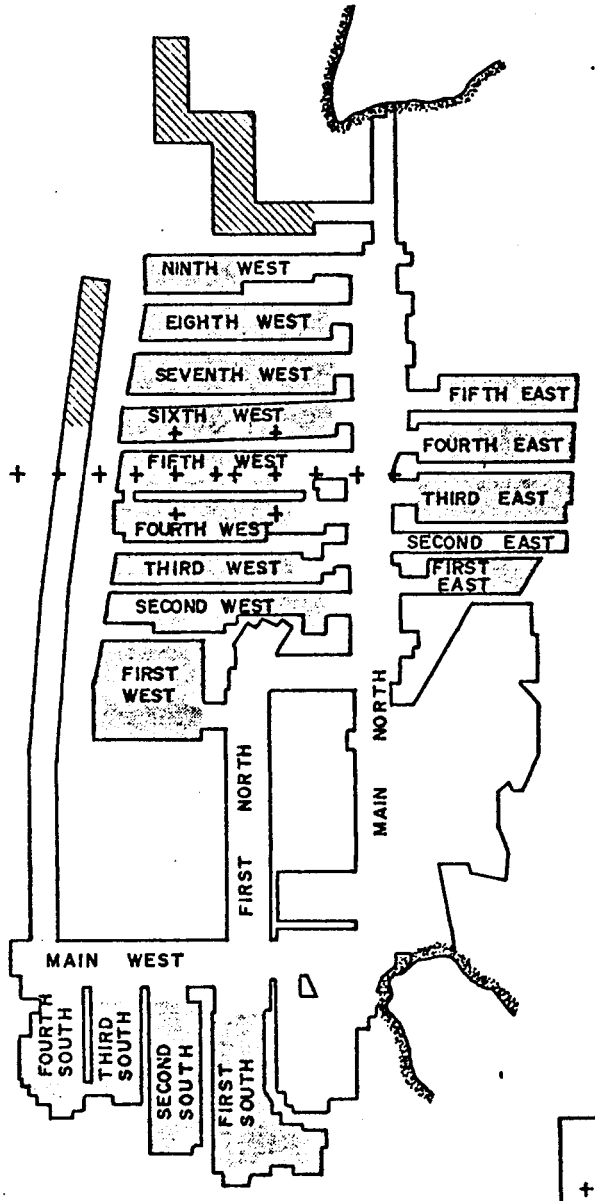
ENTER NUMBER : ,3

DO YOU WISH A LISTING OF,
SURVEY DATES ,Y

NUMBER	RECORD, DESCRIPTION,
1	: 09/17/1980 , USBMO: L
2	: 07/07/1981 , USBMO: L
3	: 09/23/1981 , USBMO: L
4	: 10/27/1981 , USBMO: L
5	: 07/12/1982 , USBMO: L
6	: 07/15/1982 , USBM : L
7	: 10/21/1982 , USBM : L
8	: 11/03/1982 , J + T: L
9	: 07/12/1982 , USBM : T
10	: 10/19/1982 , USBM : T
11	: 11/19/1982 , USBM : T
12	: 06/21/1983 , USBM : L
13	: 07/06/1983 , USBMO: L
14	: 07/06/1983 , USBM : L
15	: 07/07/1983 , USBM : L
16	: 07/26/1983 , USBM : L
17	: 07/26/1983 , USBM : L
18	: 07/06/1983 , USBM : T
19	: 07/24/1983 , USBM : T
20	: 08/08/1983 , J + T: L

APPENDIX

DES-BEE-DOVE MINE



RECEIVED
JUN 11 1984
DIVISION OF OIL
GAS & MINING

N

LEGEND

+ + + MONITORING STATIONS

MINE WORKINGS

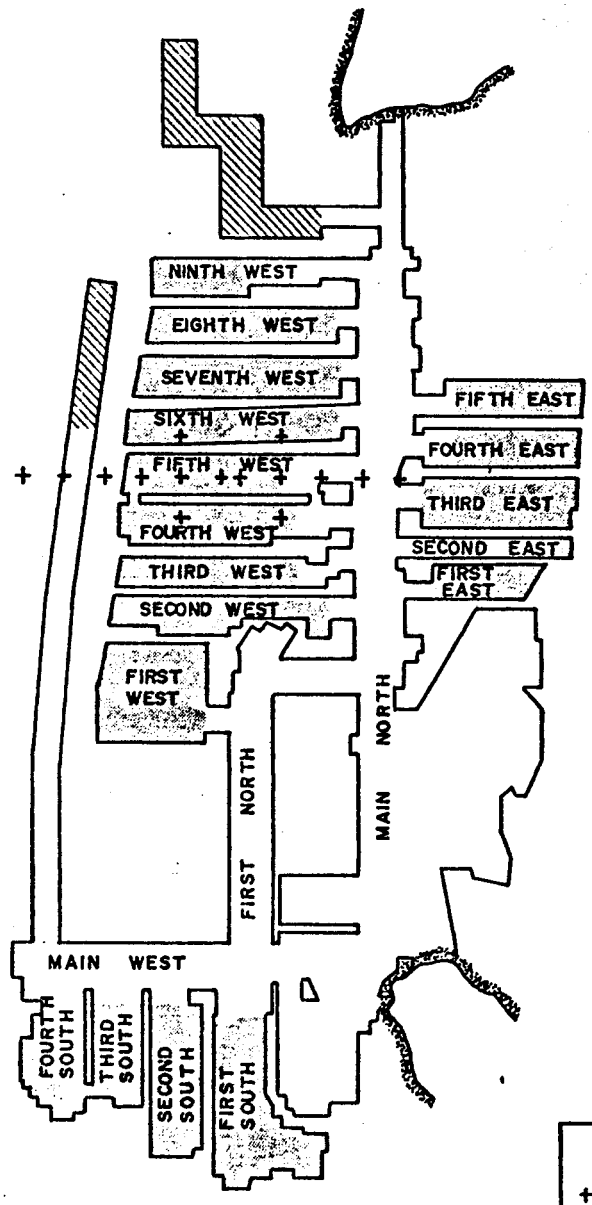
MINING COMPLETED

ACTIVE MINING AREA

MINE WORKINGS UPDATED TO 9/1/83 LJG

DESERET COAL MINE

SCALE: 1" = 2000'



RECEIVED
JUN 11 1984
DIVISION OF OIL
GAS & MINING

N

LEGEND

+++ MONITORING STATIONS

MINE WORKINGS

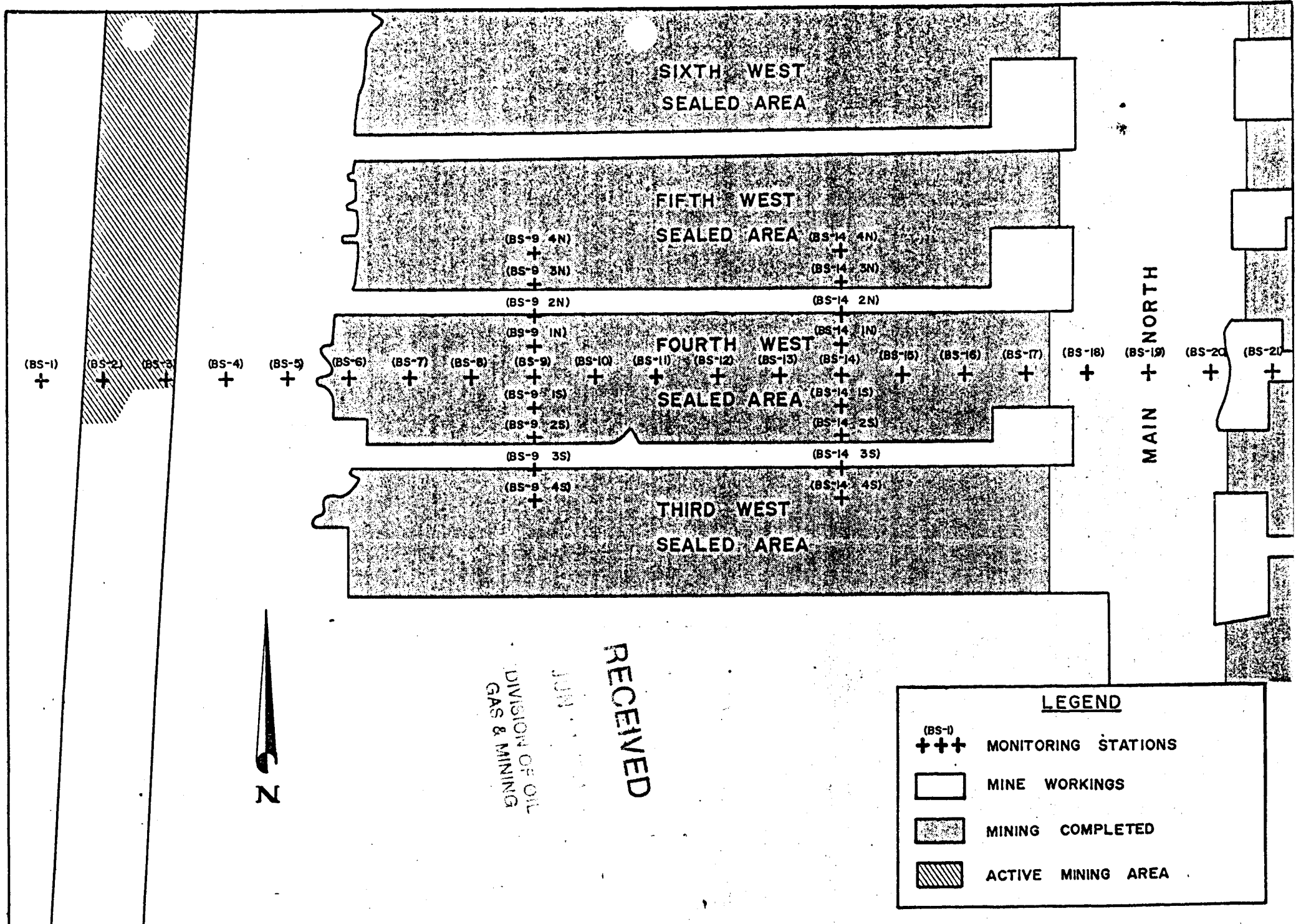
MINING COMPLETED

ACTIVE MINING AREA

MINE WORKINGS UPDATED TO 9/1/83 LJG

DESERET COAL MINE

SCALE: 1" = 2000'



RECEIVED
JUN
DIVISION OF OIL
GAS & MINING

BEEHIVE & LITTLE DOVE COAL MINES

SCALE : 1" = 400'

MINE WORKINGS UPDATED TO 9/1/83 GJG

REPORT OF SUBSIDENCE STUDY

LOCATED ON EAST MOUNTAIN ABOVE THE

DES-BEE-DOVE
COAL MINES

from October 1980
to October 1983

By

Intermountain Aerial Surveys
A Div. of Engineering Enterprises, Inc.

Salt Lake City, Utah

SUBSIDENCE REPORT
DES-BEE-DOVE COAL MINES

I. Scope of Work

A. Establish Monuments on East Mountain above the "Des-Bee-Dove" Mine System as directed. Included sketch shows locations as related to mine workings. Computation sheets identify station location by State Plane Coordinate System (Utah Central Zone Modified C.A.F. = 1.0004350)

B. Monitor elevation changes on Monuments at monthly intervals as long as weather allows practical access.

II. Procedures

A. Elevations were established in 1980 by use of trigonometric leveling. Vertical angles were measured with a Wild T-2 theodolite. Accepted survey practices were utilized to insure reasonable accuracies.

B. 1983 Elevations were monitored by differential leveling. Third order technique and accuracies were observed.

C. Horizontal point determination was accomplished by employing third order techniques. Wild T-2 theodolites and AGA Model 78 Distance Measuring Equipment were used.

III. Control Datum

Control point "P-3" is used as the reference monument for this study. It is located on East Mountain, east of the monitoring line (See computation sheets). Its stability has been tested by recalculating several control networks which have passed through the station throughout the last several years. To insure against the possibility of future subsidence it will be tied to control point "M-2" at systematic periods throughout the monitoring year by trigonometric leveling. M-2 is located near the portal of the Deseret Mine and is outside of the area of any suspected subsidence.

SUBSIDENCE STUDY
DES-BEE-DOVE COAL MINES

Station	VABM OCT 80	NOV 82	AUG 83	SEPT 83	OCT 83	Diff. 80 OCT 83
P-3	9239.89	9239.89	9239.89	9239.89	9239.89	Fixed
BS-21	9223.5	9223.56	9223.59	9223.59	9223.60	+0.1
BS-20	9210.2	9210.28	9210.30	9210.30	9210.32	+0.1
BS-19	9201.9	9201.96	9202.00	9202.00	9202.02	+0.1
BS-18	9188.7	9188.68	9188.70	9188.70	9188.71	0
BS-17	9167.2	9167.08	9167.12	9167.12	9167.13	-0.1
BS-16	9147.1	9146.66	9146.65	9146.65	9146.67	-0.4
BS-15	9125.4	9124.66	9124.65	9124.65	9124.66	-0.7
BS-14	9106.7	9105.81	9105.79	9105.79	9105.78	-0.9
BS-13	9085.8	9084.70	9084.67	9084.67	9084.67	-1.1
BS-12	9062.3	9061.11	9061.07	9061.07	9061.08	-1.2
BS-11	9038.3	9037.05	9036.99	9036.99	9037.00	-1.3
BS-10	9016.5	9015.27	9015.25	9015.25	9015.25	-1.2
BS-9	8993.3	8992.03	8991.98	8991.98	8991.97	-1.3
BS-8	8962.8	8961.64	8961.54	8961.54	8961.57	-1.2

SUBSIDENCE STUDY

Station	VABM OCT 80	NOV 82	AUG 83	SEPT 83	OCT 83	Diff. 80 OCT 83
BS-7	8931.0	8929.98	8929.88	8929.88	8929.90	-1.1
BS-6	8900.6	8899.71	8899.64	8899.63	8899.64	-1.0
BS-5	8867.4	8867.39	8867.30	8867.29	8867.32	-0.1
BS-4	8846.5	8846.51	8846.42	8846.41	8846.46	-0.1
BS-3	8806.6	8806.71	8806.61	8806.60	8806.65	0
BS-2	8795.2	8795.29	8795.21	8795.20	8795.25	0
BS-1	8785.6	8785.54	8785.52	8785.51	8785.57	0

SUBSIDENCE STUDY
DES-BEE-DOVE COAL MINES

Station	VABM OCT 80	NOV 82	AUG 83	SEPT 83	OCT 83	Diff. 80 OCT 83
BS-9						
#1 No.	8983.8	8982.36	8982.31	8982.31	8982.31	-1.5
#2 No.	8973.9	8972.32	8972.27	8972.27	8972.24	-1.7
#3 No.	8960.0	8958.32	8958.27	8958.27	8958.22	-1.8
#4 No.	8946.8	8945.02	8944.97	8944.97	8944.87	-1.9
BS-9						
#1 So.	8995.7	8994.61	8994.56	8994.56	8994.57	-1.1
#2 So.	8992.6	8991.61	8991.56	8991.56	8991.60	-1.0
#3 So.	8980.6	8979.75	8979.70	8979.70	8979.72	-0.9
#4 So.	8958.3	8957.50	8957.45	8957.46	8957.50	-0.8

SUBSIDENCE STUDY
DES-BEE-DOVE COAL MINES

Station	VABM OCT 80	NOV 82	AUG 83	SEPT 83	OCT 83	Diff. 80 OCT 83
BS-14						
#1 No.	9103.0	9102.05	9102.03	9102.03	9102.02	-1.0
#2 No.	9098.8	9097.76	9097.73	9097.73	9097.72	-1.1
#3 No.	9087.4	9086.22	9086.19	9086.19	9086.18	-1.2
#4 No.	9076.8	9075.61	9075.58	9075.58	9075.56	-1.2
BS-14						
#1 So.	9105.2	9104.35	9104.36	9104.36	9104.36	-0.8
#2 So.	9095.0	9094.21	9094.21	9094.21	9094.21	-0.8
#3 So.	9082.8	9082.05	9082.09	9082.09	9082.09	-0.7
#4 So.	9079.4	9078.77	9078.81	9078.81	9078.81	-0.6