

10.195



THE STATE OF WYOMING



JIM GERINGER  
GOVERNOR

# Department of Environmental Quality

250 Lincoln Street • Lander, Wyoming 82520-2848 • Fax (307) 332-7726

ABANDONED MINES (307) 332-5085	AIR QUALITY (307) 332-6755	LAND QUALITY (307) 332-3047	SOLID & HAZARDOUS WASTE (307) 332-6924	WATER QUALITY (307) 332-3144
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February 4, 2000

Fremont County Solid Waste Disposal District  
Don Connell- Superintendent  
P.O. Box 1400  
Lander, Wyoming 82520

RE: Permit Modifications / Environmental Monitoring and Reporting Program  
Sand Draw Landfill (SHWD File #10.195)

Dear Mr. Connell :

As you know, the environmental monitoring program for the Sand Draw Landfill must be modified due to the presence of groundwater in the expansion area. As per the approved permit extension, dated May 3, 1999, groundwater monitoring in the expansion area must be initiated prior to any waste being placed. Upon review of the groundwater monitoring work plan submitted by Inberg-Miller Engineers and the Departments file for the facility, the enclosed "Draft" permit modification was developed.

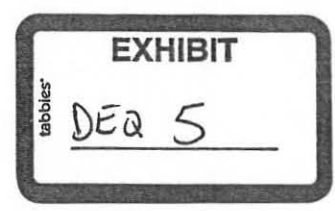
I have enclosed a "DRAFT" permit modification for your consideration. The Department feels it is important to get your input so that we can develop a document which is clear and concise. Please review and contact me no later than February 22, 2000, if you have any comments, questions or suggestions regarding this modification. Thank you for your cooperation in these matters. Please feel free to contact me at (307)332-6924 or e-mail: ptxoxe@state.wy.us if you should have any questions or suggestions.

Sincerely,

Patrick J Troxel  
Senior Environmental Analyst  
Solid and Hazardous Waste Division

encl.: "DRAFT" permit modification for Sand Draw #1 landfill

copy: Howard Johnson, Inberg-Miller Engineers, 124 E. Main, Riverton, WY 82501 W/Encl.  
Lander SHWD File # ~~10.655~~ W/Encl  
Cheyenne SHWD File # 10.655 W/Encl 10.195



February 4, 2000

CERTIFIED MAIL #  
RETURN RECEIPT REQUESTED

Fremont County Solid Waste Disposal District  
Don Conell- Superintendent  
P.O. Box 1400  
Lander, Wyoming 82520

RE: Permit Modifications / Environmental Monitoring and Reporting Program  
Sand Draw Landfill (SHWD File #10.195)

Dear Mr. Connell :

As you know, the environmental monitoring program for the Sand Draw Landfill must be modified due to the presence of groundwater in the area designated for expansion. As per the approved permit extension, dated May 3, 1999, groundwater monitoring in the expansion area must be initiated prior to any waste being placed.

To address this issue, the permit extension which was issued for this facility on May 3, 1999 is being modified as per the following permit modifications to ensure compliance with the provisions of Chapter 2 of the Wyoming Solid Waste Rules and Regulations.

*Permit Modification #1 / Environmental Monitoring Program*

- A. *Monthly water level measurements shall be made and recorded (as feet above mean sea level) during the baseline monitoring period for the following wells: R-2, R-4, R-5, R-6, R-7, R-8, R-9, R-10, R-11, R-12, and R-13.*
- B. *Methane concentrations (as a percentage of the lower explosive limit) shall be measured and recorded four times per year, during the months of January, April, July and October, at the following monitoring points : Methane ventilation system vents SD-1 and SD-2, and monitoring wells R-2 and R-4.*
- C. *Prior to wastes being placed in the expansion area wells R-2, R-4, R-5, R-6, R-7, R-8, R-9, and R-12 shall be sampled at least eight (8) times to establish a baseline data set for Appendix A constituents. Following the collection of the baseline data, monitoring wells R-2, R-4, R-5, R-6, R-7, R-8, R-9, R-12, and R-13 shall be sampled two (2) times per year, during the months of April and October. All groundwater samples shall be analyzed for Appendix A constituents.*

D. All groundwater samples shall be analyzed by a laboratory using one of the suggested methods identified in Appendix B.

E. All groundwater data shall be analyzed using appropriate statistical methods within sixty (60) days of each sampling event. Statistical analysis shall be completed for each constituent which has been detected in any downgradient compliance well during the most recent or any previous sampling event. The operator shall use one of the statistical methods described in Section 6(b)(i)(C)(VI)(1 through 4). The following performance standards shall be applicable to statistical analysis of the data:

- ▶ The selected method shall be appropriate for the distribution of the data.
- ▶ ANOVA shall be done at a Type I test-wise error rate of no less than 0.01, and a Type I experiment-wise error rate of no less than 0.05.
- ▶ Tolerance Intervals and Prediction Intervals shall contain at least 95% of the population and attain a confidence level of at least 95%.
- ▶ Control Chart types and parameters shall be pre-approved by the Department.
- ▶ Any data reported as below detection limits shall be entered into the statistical analysis as a value of one-half the practical quantitation limit (POL, as defined in Solid Waste Rules and Regulations).
- ▶ Procedures used to adjust the data for seasonal and spacial variability shall be pre-approved by the Department.

In the event that unforeseen circumstances prevent the operator from complying with this schedule, the operator shall notify the Department within sixty (60) days of the sampling event. Such notification shall include an explanation of the problem, the steps which will be taken to complete the required task, and a revised task schedule.

F. All statistical analyses shall be performed using intrawell comparisons.

#### *Permit Modification #2 / Environmental Reporting Program*

A. In the event that methane concentrations are detected in excess of 25% of the Lower Explosive Limit (LEL) at any monitoring point during any monitoring event, the operator shall take immediate steps to protect human health and notify the Department within 72 hours.

Within seven (7) days of a methane detection in excess of 25% of the LEL, the operator shall place a copy of the methane data and a written description of the steps taken to protect human health, in the operating record.

Within 60 days of a methane detection in excess of 25% of the LEL, the operator shall implement a remediation plan which has been approved by the Department, and place a copy of that plan in the operating record.

B. *In the event that a statistically significant difference in water quality between background data and any downgradient compliance well data is detected during any monitoring event, the operator shall notify the Department and place a note in the facility operating record within fourteen (14) days. The notification to the Department shall contain the following information :*

- ▶ *The sampling date;*
- ▶ *The names of the constituents which were found to be statistically significant;*
- ▶ *The concentrations of the constituents which were found to be statistically significant;*
- ▶ *The names of the wells in which the constituents were found to be statistically significant;*
- ▶ *A description of the statistical analysis used;*
- ▶ *A copy of the data in an electronic format; and*
- ▶ *If available, a copy of the summary report from the statistical software which was used.*

C. *The operator shall submit annual monitoring reports for this facility no later than January 31 of each year beginning with the year 2000 due before January 31, 2001. The annual monitoring reports shall contain the following:*

- ▶ *All laboratory data collected during the previous year, in both paper and electronic format;*
- ▶ *All water level measurements collected during the previous year, in both paper and electronic format;*
- ▶ *Methane monitoring data collected during the previous year; in both paper and electronic format;*
- ▶ *A table identifying the dates on which groundwater samples are collected, laboratory reports received, statistical analyses completed, and statistically significant differences reported to the Department;*
- ▶ *A map which identifies the location of all groundwater sampling locations;*
- ▶ *A map which identifies groundwater flow directions.*
- ▶ *A map which identifies the location of all methane sampling locations;*
- ▶ *A narrative description of all statistical analyses completed and a justification for the statistical method(s) chosen;*
- ▶ *If available, copies of summary reports available from the statistical software which is used to analyze the groundwater data;*
- ▶ *A narrative discussion of significant findings associated with the previous year's environmental monitoring program including recommended course of action;*
- ▶ *A narrative discussion of any problems with implementation of the environmental monitoring program and plans to avoid these problems in the future; and*
- ▶ *Any additional data analysis provided at the discretion of the operator.*

*In the event that unforeseen circumstances prevent the operator from complying with this schedule, the operator shall notify the Department no later than January 31 of each year. Such notification shall include an explanation of the problem, the steps which will be taken to complete the required task, and a revised task schedule.*

D. All environmental monitoring data submitted electronically shall be provided as tab-delimited text files (\*.txt) or Excel™ spreadsheet files (\*.xls) in the format specified by the Department. The Department shall provide a disk with pre-formatted files in both tab-delimited text files and Excel™ spreadsheet files for this purpose. The files shall be named as follows:

10195apa	Appendix A parameters
10195swl	Static water levels
10195met	Methane concentrations

The procedures, requirements and schedules described in these permit modifications shall supercede conflicting information in the permit application document and the permit letter for this facility. Modifications to the conditions described above shall not be implemented until such time that the operator receives written approval from the Department.

This permit modification is being issued under the authority of Solid Waste Chapter 1, Section 4(c) and shall be effective sixty (60) days after your receipt of this letter. If you are unable to accept this permit modification, you must appeal this department decision by sending a letter stating your objections to the Environmental Quality Council, Herschler Building, 122 West 25th Street, Cheyenne, Wyoming 82002, within sixty (60) days of your receipt of this letter.

Please be advised that all changes imposed by this permit modification must be incorporated into the next renewal permit application for this facility (due October 31, 2000). If you have any questions on this matter, please feel free to call Patrick J. Troxel at (307) 332-6924.

Sincerely,

David A. Finley  
Administrator  
Solid & Hazardous Waste Division

Dennis Hemmer  
Director  
Wyoming Dept. of Environmental Quality

copy: Bob Sweeney, SHWD/Lander ↔ Patrick Troxel, SHWD/Lander ↔ File # 10.195

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10.195

# INBERG-MILLER ENGINEERS

124 EAST MAIN STREET

RIVERTON, WYOMING 82501-4397

307-856-8136

## RECEIVED

July 5, 2000

JUL 6 2000

1774-RW

Solid & Hazardous waste Div.  
Lander, Wyoming

Mr. Patrick Troxel  
Wyoming Department of Environmental Quality  
Solid and Hazardous Waste Division  
250 Lincoln Street  
Lander, WY 82520

Dear Mr. Troxel:

As requested in your letter to the Fremont County Solid Waste Disposal District (FCSWDD) dated April 12, 2000, and per our subsequent telephone conversations, we have completed the requested field work pertaining to monitoring wells R-8 and R-9 at the Sand Draw Landfill. This field work included the following: gauging and developing well R-8 in order to determine hydraulic conductivity of the water-bearing zone and if the groundwater will recharge to its original level; and gauging and developing well R-9 to determine if sufficient groundwater is present to sample.

On June 9, 2000, a representative of Inberg-Miller Engineers gauged and developed well R-8 and it appears that the groundwater elevation in this well remains approximately 40 feet higher than that of the surrounding wells, which were gauged on June 6, 2000. After development, in which R-8 was pumped almost completely dry, a hydraulic conductivity test was performed which indicated that the hydraulic conductivity of the water-bearing zone monitored by R-8 is approximately  $1.5 \times 10^{-8}$  cm/sec. Well R-8 was again gauged on June 22, 2000 and the groundwater had recharged to within two feet of the original level. Due to the significant difference in elevation between R-8 and the other wells, it appears that well R-8 is monitoring a perched zone that is located above the water-bearing zone monitored by the other site wells. The enclosed hydrograph indicates that the water level in R-8 has steadily decreased since January 2000, following the significant increase in the fall of 1999. Further monitoring will be necessary in order to determine the significance of this fluctuation. Also enclosed is a map showing the potentiometric surface of the main water-bearing zone across the site, excluding the zone monitored by well R-8.

**EXHIBIT**  
tabbles  
DEA 6

Wyoming Department of Environmental Quality  
Solid and Hazardous Waste Division  
ATTENTION: Patrick Troxel  
July 5, 2000  
Page Two

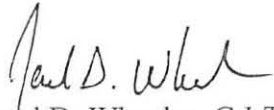
1774-RW

In addition, monitoring well R-9 was gauged and development was attempted. However, it was determined that only approximately 0.20 feet of water was present in the bottom cap and that a bailer would not retrieve this amount of water. Therefore, monitoring well R-9 will not be able to be sampled.

Please contact me at your convenience if you have any questions.

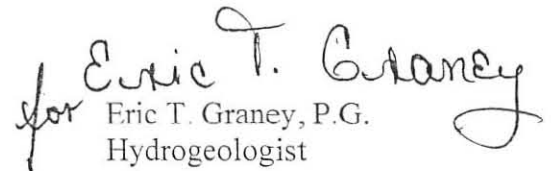
Sincerely,

INBERG-MILLER ENGINEERS



Jerrod D. Wheeler, G.I.T.  
Staff Hydrogeologist

REVIEWED BY:



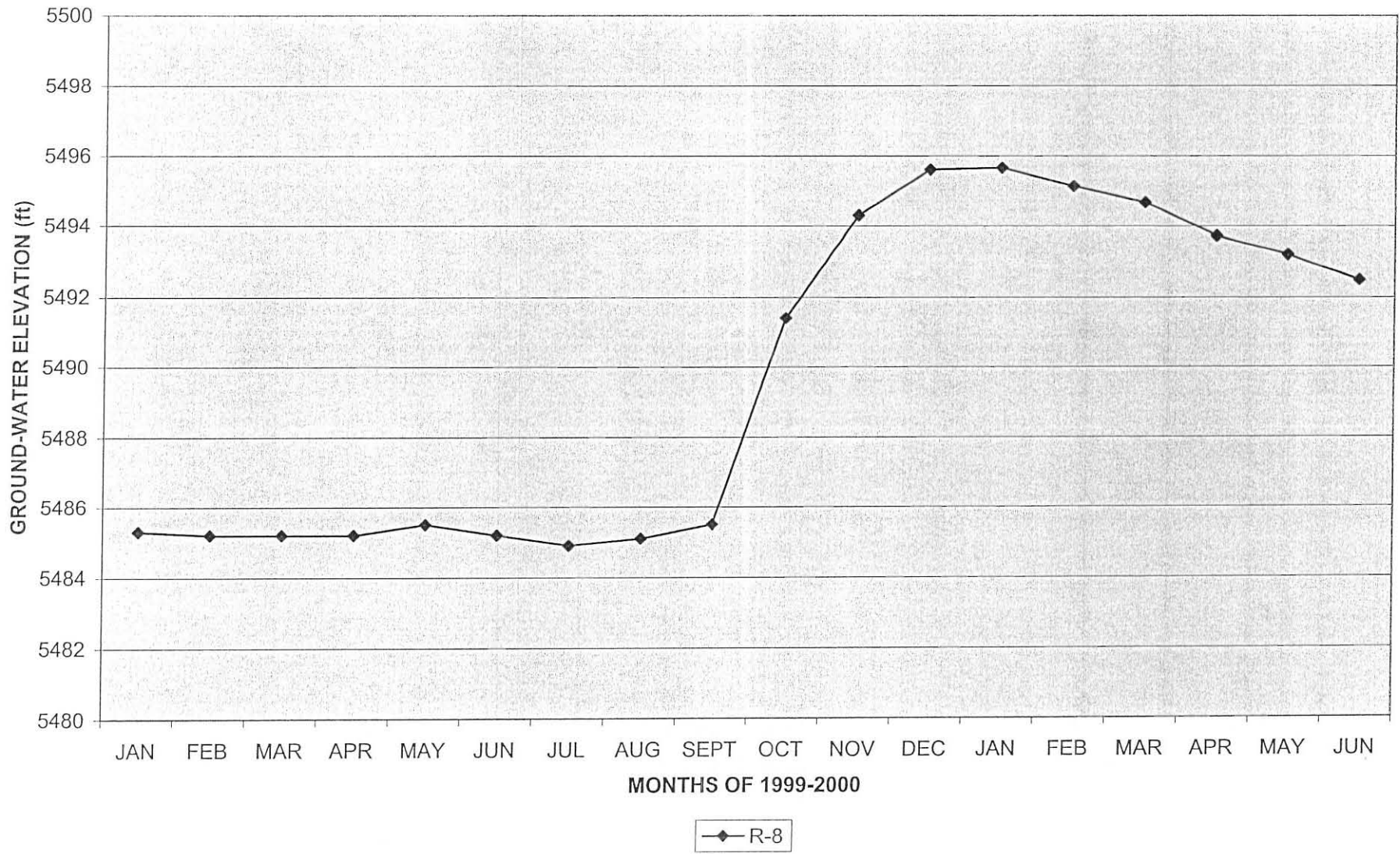
for Eric T. Graney, P.G.  
Hydrogeologist

JDW:ksp:ltr\1774-rw.ltr

Enclosures: Well R-8 Hydrograph  
6/6/00 Water Table Map

cc: Don Connell - FCSWDD

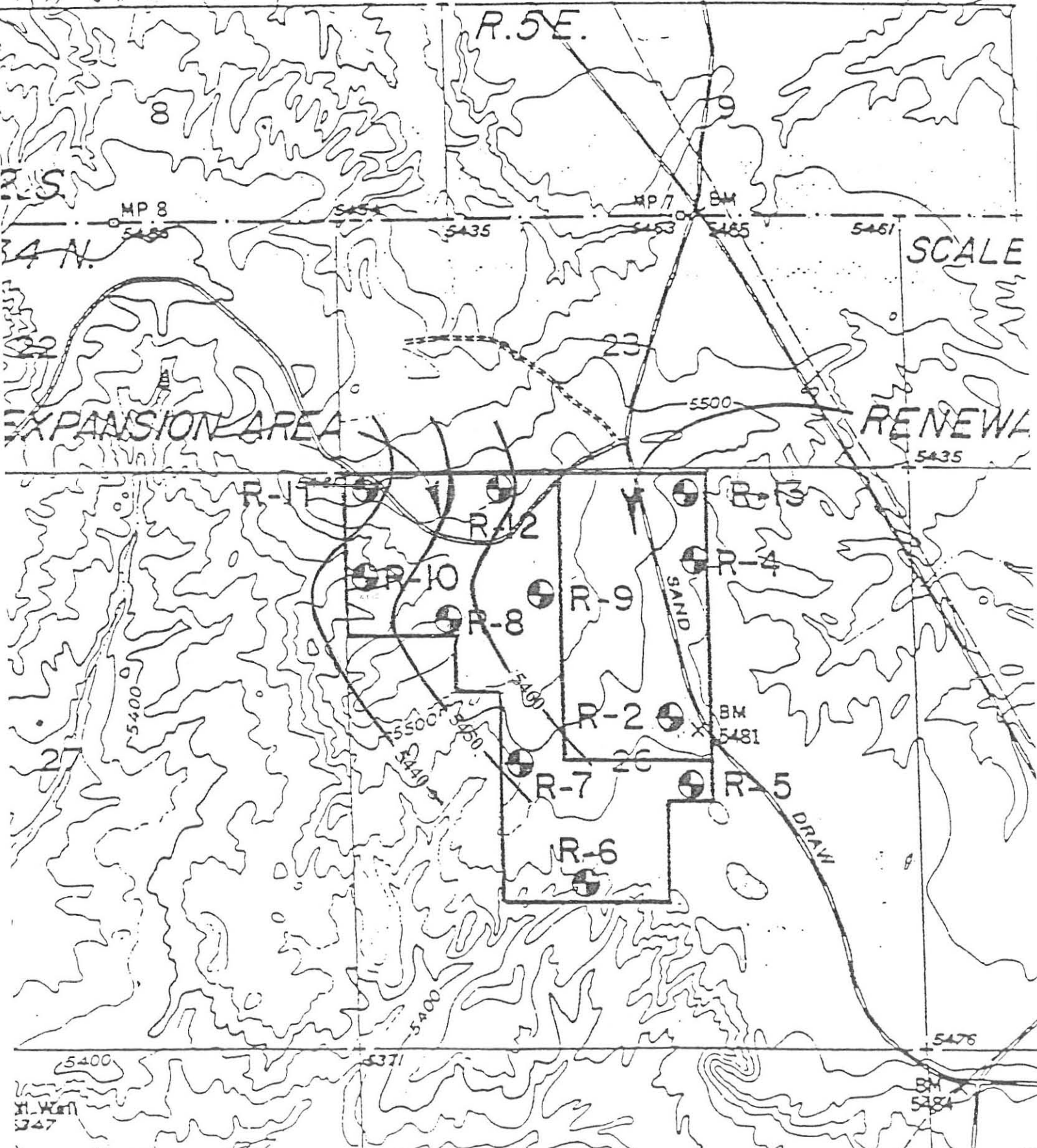
# SAND DRAW LANDFILL





6-6-00 WATER TABLE MAP

R. 5 E.



SCALE

EXPANSION AREA

RENEWAL

R-11

R-12

R-13

R-10

R-9

R-4

R-8

R-9

R-2

R-7

R-5

R-6

SAND DRAW

DRAW

11. West  
1747

5476

BM 5484