

1. Considered: _____, 19____ Water Right No. 1853-2
2. Name of Applicant CITY OF EDGE MONT
3. Post Office Address Box A Edgemont, SD 57735
4. Amount of Water Claimed 1.00 maximum acre feet _____
5. Source of Water Supply One 3536' Madison Aquifer well (City Well #5)
6. Water to be used for MUN acres to be irrigated _____
7. County Fall River about _____ miles _____ of _____ City Limits
8. PROOF OF PUBLICATION: Received 10-31-83 Not Received _____
- APPLICATION: Approved 11-30-83 Subject to AW-SW-Madison Well #5
- Not Approved _____ Action Deferred _____

8/23/83

PRIORITY 8/23/83 Dated Received _____ Application complete-yes ☒ no _____ FEE 350.00

Remarks need ed map, log etc do not have 2A but have copy of file from SDGS in Rapid City

Corrected Application received 9/13/83 Period of Annual Use 1/1 to 12/31

WATER QUALITY Received yes _____ no _____ APPROVED/CONDITIONAL (Circle one)

W1-1 Description same as application-yes _____ no _____ Remarks not applicable

Disapproved _____ Returned _____

				2	
				x	

Diversion Point _____

SW $\frac{1}{4}$ SE $\frac{1}{4}$ Section 2-T9S-R2E

Land to be irrigated _____

WELL LOG Driller Bass Enterprises, =Denver COLO Licensed - yes _____ no x

Depth 3536' Drilled as a wildcat oil well will be converted to a municipal water well by the City of Edgemont

Remarks _____

MAP Map No. 1853-2 Map located in Water Right x Map file _____
 Type of Map drawn Prepared by Plains Engineering
Darrel Schlup, Licensed Surveyor

+++++

REVIEWED This Application was received within 30 days of the date received, accepted as complete, Number assigned and written up for advertisement before the Board on:
9/19/83

Betty Westlund
 (Signed)

+++++

PROTESTS Letters/Petitions in File - yes _____ no _____ Remarks _____

REMARKS Date
 F.F. & C. Final Decision, including F.F. & C. of Law were adopted _____
 OF LAW, Date
 FINAL Final Decision mailed to parties and/or parties notified that Final Decision was
 DECISIONS adopted _____
 ETC. Remarks _____

No. 1853-2Map No. 1853-2 Water Division No. 2 UPPER CHEYENNE DistrictAbove for Office Use 10/20/06

APPLICATION FOR PERMIT To Appropriate Water within the State of South Dakota

Check one of the following:

New ☒ Vested Right _____ Future Use _____Change in Diversion _____ Additional Diversion ☒ _____

Change in Acreage _____ Additional Acreage _____

1. Name of Applicant City of Edgemont Phone No. 662-7422
 Post Office Address Box A Edgemont State S. Dak. 57735
 (Street, RR, or Box) (Town) (Zip Code)
 If a corporation show date and place of incorporation _____

2. Method of accomplishing work (contract, employment of others, or by direct labor) Contract Drillings3. Name of diversion work City Water Well # 54. Amount of water claimed (cubic feet per second) 0 to 1 cubic feet per second5. Source of water supply Madison Aquifer, drilled well, 3536 feet deep

6. Location of point of diversion NW $\frac{1}{4}$, SW $\frac{1}{4}$, SE $\frac{1}{4}$ Sec. 2, T9S, R2E
1300 FSL & 2100' FEL KB3596, GL3581

County Fall River7. Annual period or periods during which water is to be used Year round, more in summer8. Use to be made of water, (irrigation, industrial, municipal, commercial, recreation, etc.) Municipal

9. For irrigation use, Total number of acres to be irrigated _____

List below each forty acre subdivision, or lot, or fraction thereof and show number of acres to be irrigated in each

Land Description	No. Acres Irr.

Land Description	No. Acres Irr.

Attach sheet if more space is needed

10. Time required to complete construction of water supply system 5 years. Additional time required
 to complete application of water to the proposed beneficial use 4 years.

11. Choice of county newspaper for publication of Notice of Intent to Appropriate Water Edgemont Herald Tribune

12. Principal Features of the Proposed Water Supply System.

A. Works proposed to divert water from its natural source.

Well water will be piped and blended into existing system.

B. Works proposed to transport water to place of use.

6" inch pipe line, transite or PVC pipe.

C. Works proposed to apply water to beneficial use.

City water system already being used

Estimated Total Cost \$ 75,000

Attachments: Attach Form 2A if diversion from a well or dugout, or if storage of water, is proposed. Attach map.
 (see instructions concerning preparation.)

STATE OF SOUTH DAKOTA)

County of Fall River) ss.

City of Edgemont)

I, _____ the applicant, certify that I have read the foregoing application
 and have examined the attached map and that the matters therein stated are true and that I intend, and am able to
 complete the necessary construction.

Signed Peter H. Zeimet MayorSubscribed and sworn to before me this 12 day of SEPTEMBER, 1983

Notary Public (or other qualified officer)

WATER RIGHT APPLICATION APPROVAL

The Water Management Board hereby approves Water Right Application No. 1853-2

City of Edgemont
(Applicant)
South Dakota
(State)

Box A Edgemont
(Post Office Address)

With the following qualifications.

The construction of this Madison Formation well shall include pressure grouting with cement (bottom to top) of the casing above the water producing formation and compliance with Board well construction rules.

The well approved under this Permit shall be valved and the flow reduced to a minimum when not being used. The wells shall also be equipped with pressure gauges and records kept of any pressure fluctuations. Such records shall be available to the Board, upon request. If these wells are abandoned or the Permit cancelled, the wells must be plugged in accordance with specifications of the Water Management Board.

The well approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner, under this Permit, shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.

Date of first receipt of application August 23, 1983

Date of return to applicant for correction, amendments or changes required August 24, 1983

Date of receipt of corrected application September 13, 1983

Approved November 30, 1983, Recorded in Book _____ Page _____

WATER RIGHT PERMIT NO. 1853-2

The Water Management Board hereby grants and issues this Water Right Permit No. 1853-2 authorizing the construction of the water use system and the putting of water to beneficial use as stated in the Application and as qualified in the Water Right Application approval, subject, however, to the following limitations and conditions:

1. The date from which applicant may claim right is August 23, 1983
2. The equivalent of at least one-fifth of the work above specified is to be completed on or before May 30, 1986
3. The whole of said work is to be completed on or before November 30, 1988
4. The limit of time from proof of beneficial use of water appropriated in accordance herewith is November 30, 1992
5. The water appropriated shall be used for the purpose of Municipal

6. The prior right of all persons who, by compliance with the laws of the State of South Dakota, have acquired a right to the use of water must not be injuriously affected by this appropriation.

7. The amount of the appropriation herein granted shall not exceed 1.0 cubic feet per second; neither shall it exceed the capacity of the above described water supply system, nor shall it exceed the amount of water needed for beneficial uses served, and ~~if for irrigation purposes said appropriation must be limited to not more than 2 acre feet per acre per year and be limited to not more than one-seventieth (1/70) of one cubic foot of water per second of time for each acre of land to which water is actually and beneficially applied~~

~~for irrigation on or before~~ November 30, 1992; said water to be used during the following described annual period: January 1 thru December 31

Witness my hand this 4th day of January, 1984

THE WATER MANAGEMENT BOARD

By: John Hatch
Chief Engineer, Water Rights
JOHN HATCH

Certificate of Construction Issued _____, 19____

Water License Issued _____, 19____

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Interpretive Sample Log	

APPLICATION FOR PERMIT TO:

☒ DRILL	☐ DEEPEN	☐ PLUG BACK	FARM OR LEASE NAME
☒ OIL WELL	☐ GAS WELL	☒ SINGLE ZONE	Bass-Edgemont
			WELL NO.
			2-32
OPERATOR			FIELD AND POOL, OR WILDCAT
Bass Enterprises Production Co.			Wildcat
ADDRESS			NO. ACRES IN LEASE
1512 Larimer St., Ste. #1000 Denver, CO 80202			160
LOCATION (In feet from nearest lines of section or legal subdivision, where possible)*			1/4 1/4 SEC. TWP. RGE
SW SE 650' FSL 2100' FEL Sec. 2, T-9-S, R-2-E			SW/4 SE/4 Sec. 2-9S-2E
			COUNTY
			Fall River
NAME AND ADDRESS OF SURFACE OWNER		ELEVATION	NO. OF WELLS ETC.
City of Edgemont		3560' 3581'	1
P.O. Box A		PROPOSED DEPTH	ROTARY OR CABLE TOOLS
Edgemont, South Dakota 57735		2695'	Rotary
NAME AND ADDRESS OF CONTRACTOR		APPROXIMATE DATE WORK WILL START	
Castle Drilling Co., Inc.		April 1, 1983	
520 West Main Street			
Newcastle, WY 82701			
IF LEASE PURCHASED WITH ANY WELLS DRILLED, FROM WHOM PURCHASED (Name and address)			

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	NEW OR SECOND HAND	DEPTH	SACKS OF CEMENT
12-1/4	8-3/8	24#	New	300	220 sx
7-7/8	4-1/2	11.6#	New	2535	*

DESCRIBE PROPOSED OPERATIONS. IF PROPOSAL IS TO DEEPEN OF PLUG BACK, GIVE DATA ON PRESENT PRODUCTIVE ZONE AND PROPOSED NEW PRODUCTIVE ZONE. GIVE BLOW OUT PREVENTER PROGRAM IF ANY

*Volume to be determined by pay zone and caliper log.

Bass Enterprises intends to drill a 2695' TD Leo test on the above described property (See attached surveyors plat)

SIGNED

TITLE Asst. Prod. Foreman

DATE 3/23/83

DO NOT WRITE BELOW THIS LINE

CHECKED BY

PERMIT NO. 1263

DATE ISSUED 3/23/83

APPROVAL DATE

CONDITIONS:

☐ COMPLETE SET OF SAMPLES, AND CORES IF TAKEN, MUST BE SUBMITTED.☒ SAMPLES AND CORES TAKEN, BELOW 300' DEPTH, MUST BE SUBMITTED.STATE GEOLOGICAL SURVEY
WESTERN FIELD OFFICE

1/ Change of drillsite to exception location in concurrence with offsetting mineral owners approved 6-28-83. FVS.

SUNDRY NOTICES AND
REPORT ON WELLS

FARM OR LEASE NAME

Bass Edgemont

WELL NO.

2-32

FIELD AND POOL, OR WILDCAT

wildcat

NO. ACRES IN LEASE

160

1/4 1/4 SEC. TWP. RGE.

SW SE Sec. 2, 9-S, 2-E

COUNTY

Fall River

☒ OIL WELL☐ GAS WELL☐ _____☐ DRY

OPERATOR

Bass Enterprises Production Co.

ADDRESS

1512 Larimer St., Ste 1000, Denver, CO 80202

LOCATION (in feet from nearest lines of section or legal subdivision, where possible)

SW SE 1300' FSL, 2100' FEL, Sec. 2, T-9-S, R-2-E

ELEVATIONS (D.F., R.K.B., R.T., GRD., etc.; how determined)

GRD 3581'

INDICATE BELOW BY CHECK MARK NATURE OF REPORT, NOTICE OR OTHER DATA

NOTICE OF INTENTION TO:

SUBSEQUENT REPORT OF:

TEST WATER SHUT-OFF ☐SHOOT OR ACIDIZE ☐WATER SHUT-OFF ☐SHOOTING OR ACIDIZING ☐FRACTURE TREAT ☐REPAIR WELL ☐FRACTURE TREATMENT ☐REPAIRING WELL ☐MULTIPLE COMPLETE ☐PULL OR ALTER CASING ☐ALTERING CASING ☐ABANDON ☐Change Location ☒

(Note: Report results of multiple completion on Well Completion or Recompletion and Log Form--Form 4)

DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work)

Surveyed location of the Bass Edgemont #2-32 changed from 650' FSL, 2100' FEL to 1300' FSL, 2100' FEL.

I hereby certify that the foregoing as to any work or operation performed is a true and correct report of such work or operation.

SIGNED

TITLE Asst. Prod. Foreman

Approved

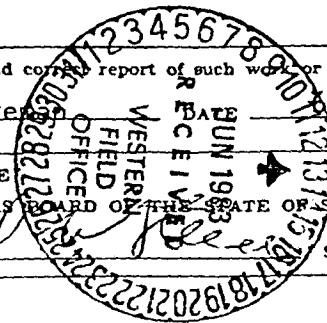
Date

CONDITIONS, IF ANY:

DO NOT WRITE BELOW THIS LINE

OIL AND GAS BOARD OF THE STATE OF SOUTH DAKOTA

Secretary



COUNTY		FIELD		STATE		SECTION		TOWNSHIP		RANGE		LOCATION							
CONTRACTOR		RIG NO.		OPERATOR		TOOLPUSHER		SPUD		UNDER SURF.		UNDER INTER.							
DRILL PIPE		TOOL JOINTS		SIZE		TYPE		O.D.		NUMBER		O.D.							
Fall River		S. Dak.																	
Shelby Drilling Co.		10		Bass Enterprises		John Stewein													
8-5-83		8-6-83				DPI 700 HDL		GXB		TSM 500		5 1/2 x 6							
4 1/2 F.H.		TOOL JOINTS				DRILL COLLARS 17 #		6"		2 1/4									
NO.	SIZE	MAKE	TYPE	JET 32ND IN	SERIAL	DEPTH OUT	FEET	HOURS	FT HR	ACCUM DRLG HRS.	WT. 1000 LBS.	R P M	VERT DEV	PUMP PRESS	PUMP OPERATION	S P M		MUD	
																1	2	WT.	VIS
1	12 1/4	See	535-J	15 15	235427	315	275												
2	8 3/4	Smith	DT4-J	11 11	CL3859	1439	1124	15			35	110	1/2	1000			62	water	
3	8 3/4	Smith	F-2	10 10	EB1719	2587	1148	49 1/4			35	35	2	1750			62	9 38	
4	8 3/4	Smith	F-3	10 10	CZ3135	2850	263				40	50		1800			62	8.9 40	

Yours for the asking . . .

Technical information and help to get your holes down faster with fewer problems. Advice on rock bit performance, bit selection, drill string analysis, hydraulics programs and recommendations on the best bit weight and rotary speed. This information is tailored for you, your location and your rig.

Your Hughes Tool Company representative is your best source for drilling information . . . wherever you drill.

Compliments of
**HUGHES TOOL
COMPANY**
Houston, Texas
U.S.A.

BIT RECORD

Well River		FIELD		STATE S. Dak.		SECTION		TOWNSHIP		RANGE		LOCATION		SECTION			
DRILLER Kelby Drilling Co.				RIG. NO. 10		OPERATOR Bass Enterprises				TOOLPUSHER John Stewein				SALESMAN			
UNDER BURF. 83		UNDER INTER. 8-6-83		SET BAND BT.		REACHED T.D.		PUMP NO. 1 DPI 700 HDL		LINER GX8		PUMP NO. 2 TSM 500		LINER 5 1/2 x 6		PUMP POWER GE-751	
PIPE 2 1/2 F.H.		TOOL JOINTS		SIZE		TYPE		O.D.		NUMBER 17		O.D. 6"		I.D. 2 1/4		LENGTH GE-751	

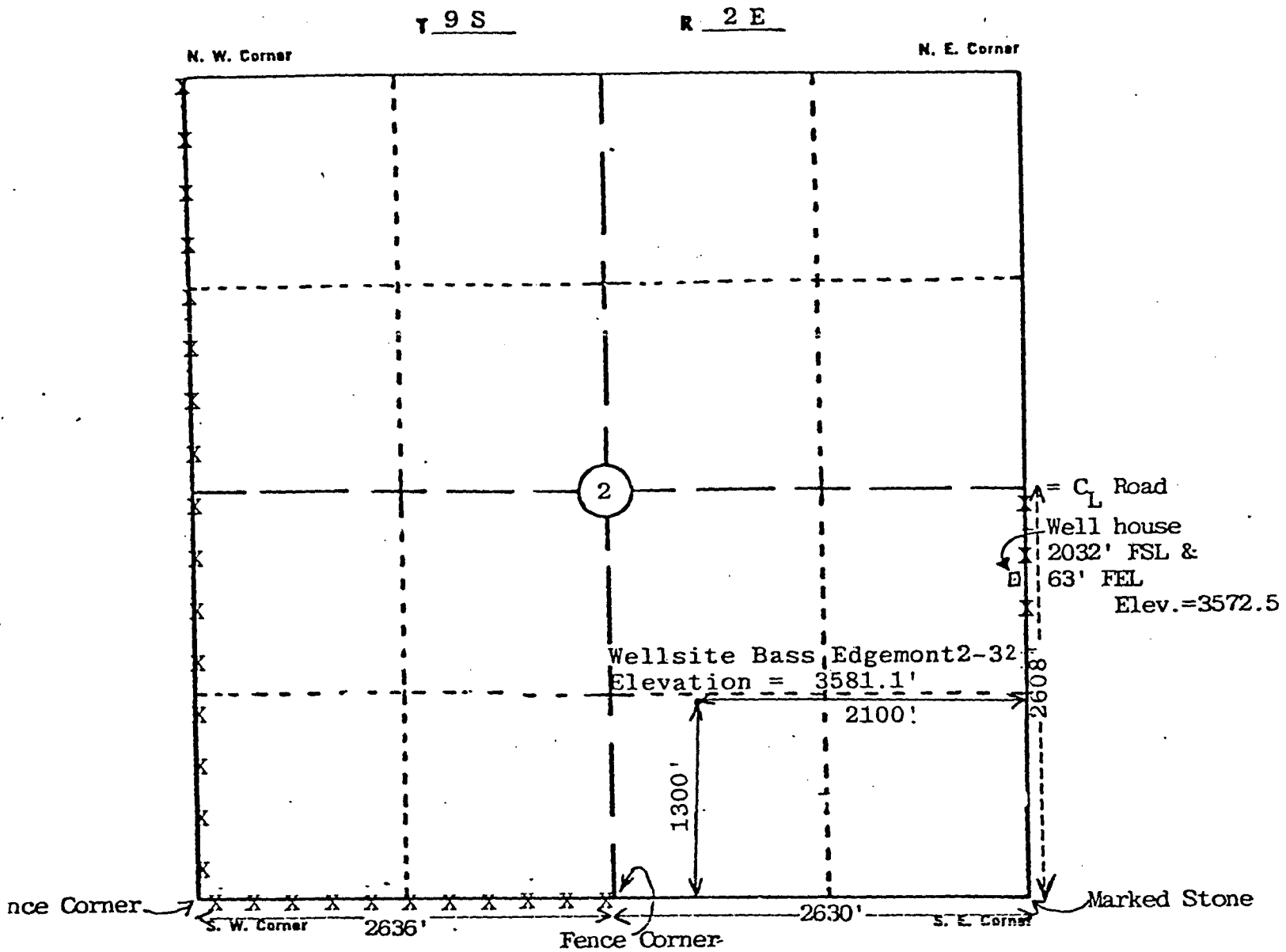
SIZE	MAKE	TYPE	JET 32ND IN	SERIAL	DEPTH OUT	FEET	HOURS	FT HR	ACCUM ORLG HRS.	WT. 1000 LBS	R P M	VERT DEV	PUMP PRESS	PUMP OPER- ATION	S P M		MUD			DULL. COND.				FORMATION REMARKS
															1	2	WT.	VIS.	W.L.	T	B	G	OTHER	
12 1/4	See	535-J	15 15	235427	315	275																		
8 3/4	Smith	DT4-J	11 11	CL3859	1439	1124	15			35	110	1 1/2	1000			62	Water							
8 3/4	Smith	F-2	10 10	EB1719	2587	1148	49 1/4			35	35	2	1750			62	9	38	9.4	8	8	1/8	Loose cones	
8 3/4	Smith	F-3	10 10	CZ3135	2850	263				40	50		1800			62	8.9	40	8.8					



PLAINS ENGINEERING

A DIVISION OF HOSKINS-WESTERN-SONDEREGGER, INC.
ENGINEERS • ARCHITECTS • PLANNERS • SURVEYORS

P.O. BOX 727 • NEWCASTLE, WY 82701 • 307-746-2754
1413 MAIN ST. • MILES CITY, MT 59301 • 406-232-6666
P.O. BOX 432 • BUFFALO, WY 82834 • 307-684-7976
B.H.P.&L BLDG. • HOT SPRINGS, SD 57747 • 605-745-5800
P.O. BOX 2020 • GILLETTE, WY 82716 • 307-682-7205



I, Darrel L. Schlup, of Newcastle, Wyoming, certify

that in accordance with a request from Ken Morr

of Denver, Colorado, for Bass Enterprises

1512 Larimer, Suite 1000; Denver, CO 80202

That I under my direction

made a survey (date) June 4, 1983

for the location and elevation Bass Edgemont 2-32

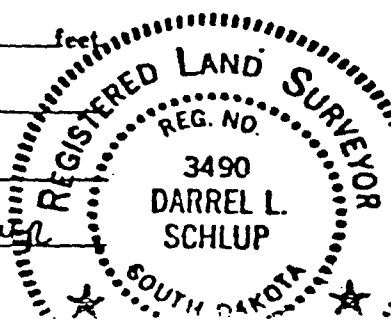
As shown on above map, the wellsite is in SW 1/4 SE 1/4

Section 2, Township 9 South, Range 2 East

Fall River County, South Dakota. Elevation is 3581.1 feet

above mean sea level before dozing.

Darrel L. Schlup
Licensed Surveyor No. 3490



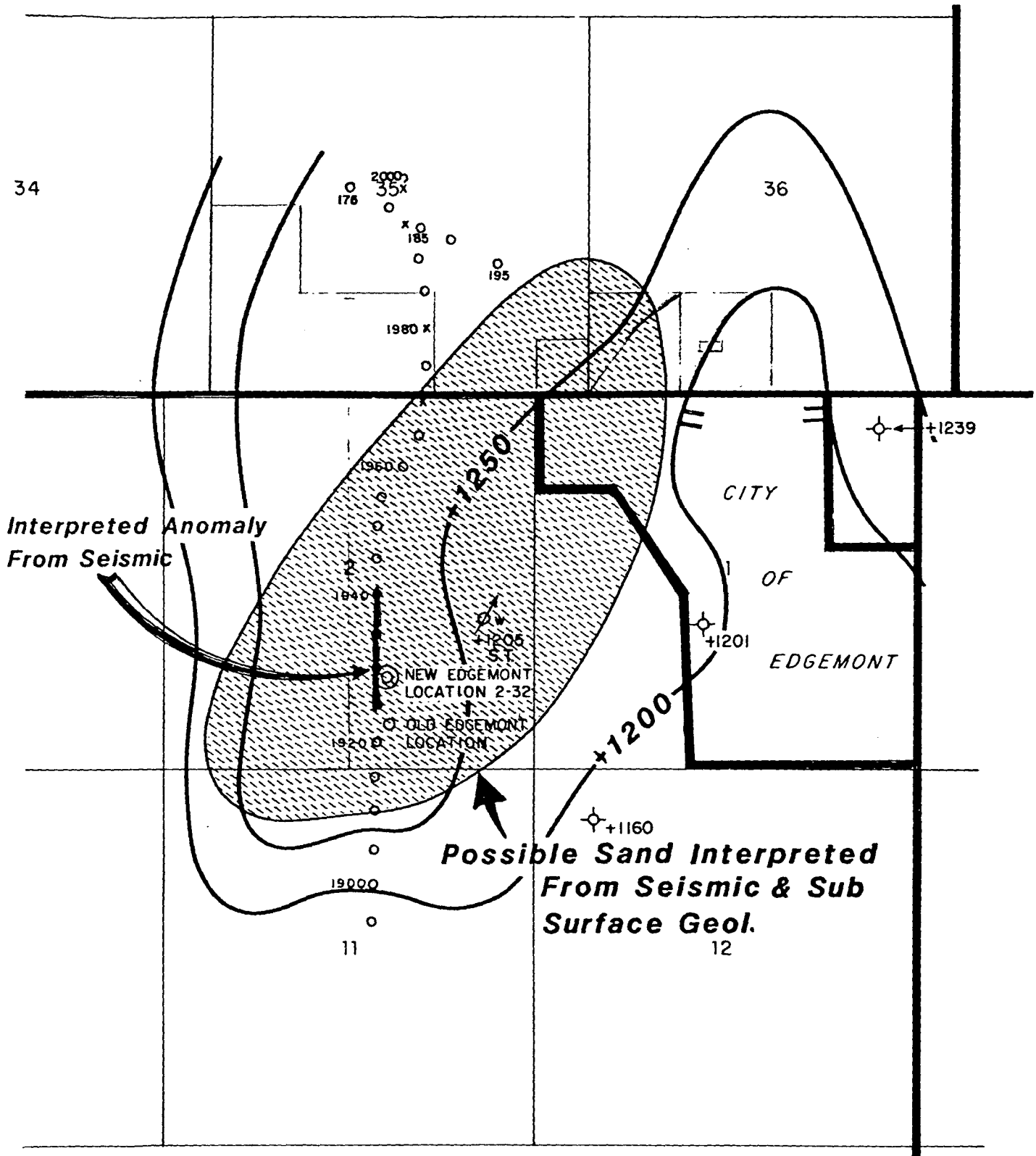
NS 90 1002.00

Appl & Map # 1853-2

R 2 E

T
8
S

T
9
S



BASS ENTERPRISES PROD. CO.

C B & Q PROSPECT

Fall River Co., So. Dak.

STRUCTURE RED SHALE MARKER

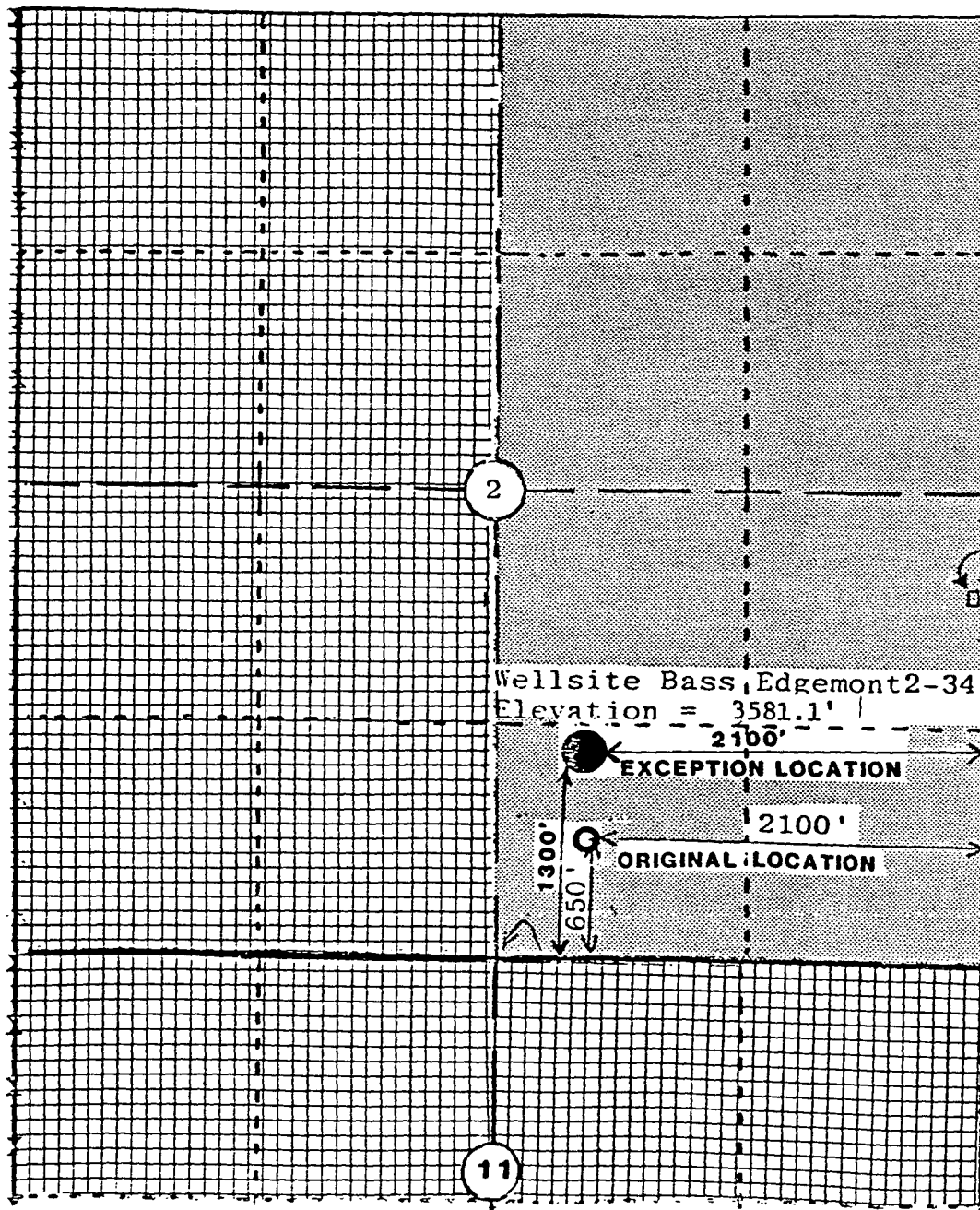
CI=50 FT.

1"=2000'

BASS EDGEMONT #2-32 WELL
TOWNSHIP 9 SOUTH RANGE 2 EAST
SECTION 2: SW1/4SE1/4
FALL RIVER COUNTY, SOUTH DAKOTA

N. W. Corner

N. E. Corner



A = C_L Road
 Well house
 2032' FSL &
 63' FEL
 Elev. = 3572.5

Wellsite Bass, Edgemont 2-34
 Elevation = 3581.1'

EXCEPTION LOCATION

ORIGINAL LOCATION

R 2 E

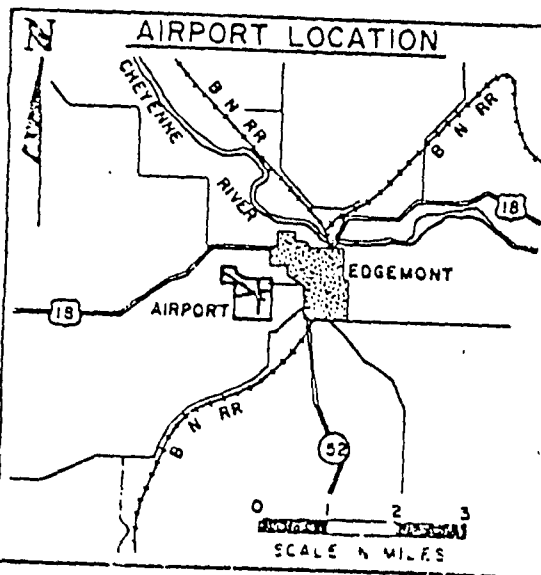


WULF, et al



BASS

T 9 S

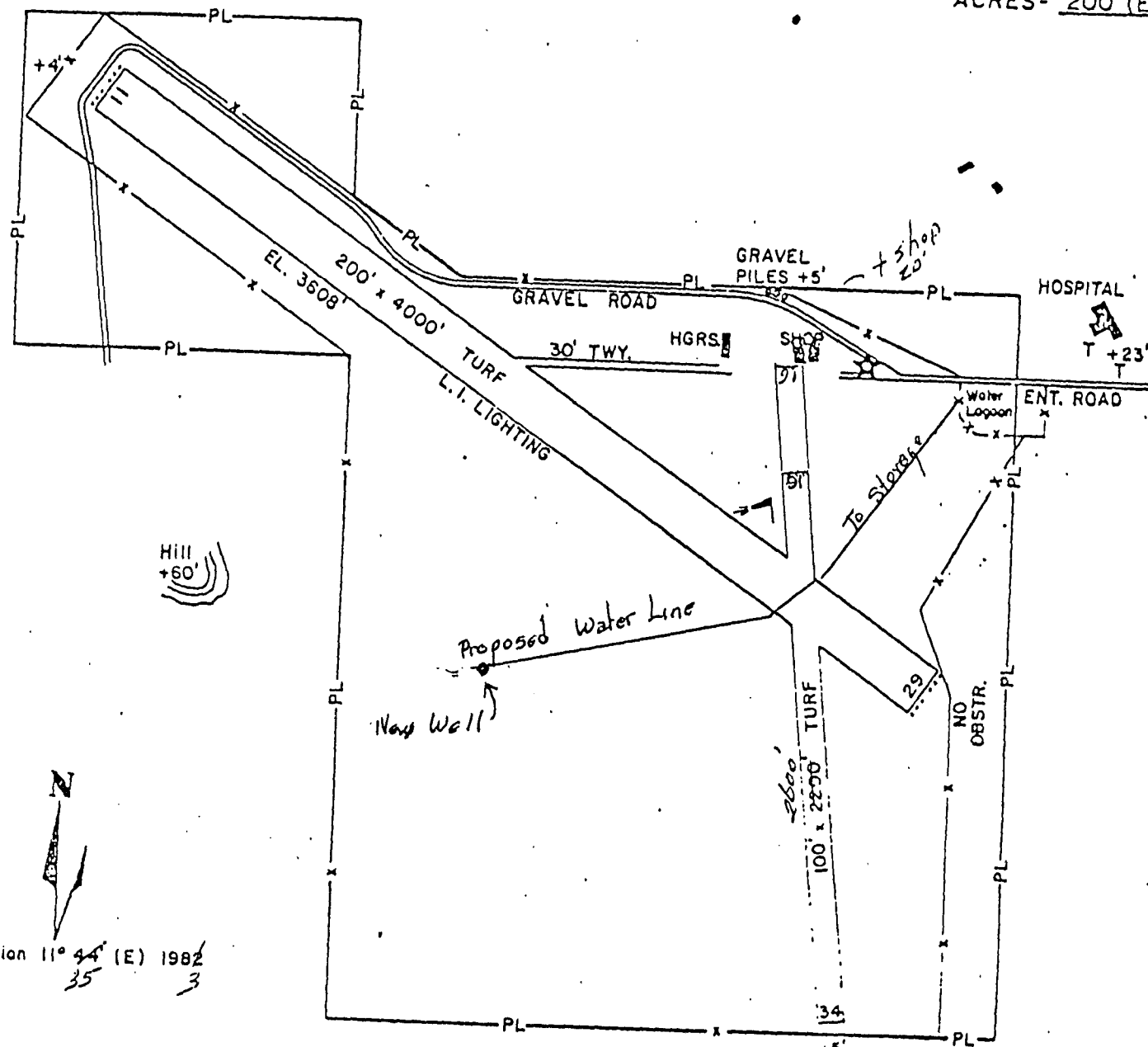


REMARKS:

BEACON ELEVATION 3620'(E)
2 AIRPLANE TIEDOWNS
NO DESIGNATED AUTO PARKING
TURF LANDING STRIPS ARE GOOD TO FAIR
TURF TAXIWAY IS FAIR
TURF APRON IS FAIR
CONVENTIONAL HANGARS-1
3000 SQ. FT. CONVENTIONAL HANGERS

Variation $11^{\circ} 44'$ (E) 1982
35 3

EDGEMONT MUNICIPAL AIRPORT
EDGEMONT, SOUTH DAKOTA



0 500 1000 1500
SCALE IN FEET

SITE NO. 22666 A
ACRES- 200 (E)

Appl 1853-2

WITH SURFACE OWNER OR LL SEE

I, Kenneth Morr
(name of individual)

Asst. Production Foreman, with Bass Enterprises Production Co.
(position) (company)

hereby certify that, to the best of my knowledge and belief, an agreement regarding compensation for damages to livestock and surface land resulting from drilling operations on the

following property: SW1/4SE1/4 of Section 2, Township 9 South, Range 2 East
(property for which permit is requested)

has been or is being negotiated with the surface landowners or lessees, as listed below:

City of Edgemont South Dakota, Box A, Edgemont, South Dakota
(surface owners/ lessees)

(land area)

Dated and signed this 1st day of March, 1983.

Kenneth Morr
Kenneth Morr

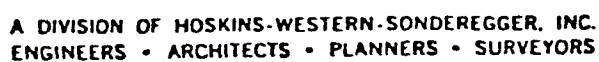
for Bass Enterprises Production Co.
(name of company)

Signed before me this 1st day of March, 1983.

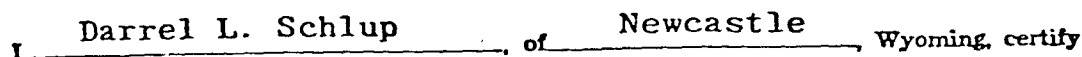
(SEAL)

Rita E. Summers
NOTARY PUBLIC: Rita E. Summers

My Commission Expires: August 25, 1986



P.O. BOX 2020 • GILLETTE, WY 82716 • 307-687-7205



I, Darrel L. Schlup, of Newcastle, Wyoming, certify

that in accordance with a request from Ken Morr

of Denver, Colorado, for Bass Enterprises

1512 Larimer, Suite 1000; Denver, CO 80202

That I, _____, ~~under my direction~~ ~~XXXXXXXXXXXXXX~~

made a survey (date) June 4, 1983

for the location and elevation Bass Edgemont 2-32

As shown on above map, the wellsite is in SW $\frac{1}{4}$ SE $\frac{1}{4}$

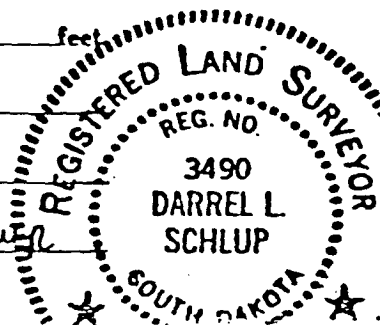
Section 2, Township 9 South ~~XXXX~~ Range 2 East ~~XXXX~~

Fall River County, ~~XXXXXX~~ South Dakota Elevation is 3581.1 feet

above mean sea level before dozing.

Darrel L. Schlup
Licensed Surveyor No. 3490

NS 90 1002.00



GENERAL INFORMATION

Operator: Bass Enterprises
Well: City of Edgemont No. 2-32
Location: NW-SW-SE Section 2 1300 FSL-2100 FEL
T.9S., R.2E.
Fall River Co., South Dakota
Elevations: K.B. - 3596
G.L. - 3581
Spud Date: August 5, 1983
Surface Casing: 9 5/8 @ 300 K.B.
Drilling Commenced: 8:30 P.M., August 6, 1983
Hole Size: 8 3/4
Cores: None
Drill Stem Tests: No. 1 2519-2587; No. 2 2625-2648
Drilling Ceased: 2:35 P.M., August 12, 1983
Total Depth: Driller - 2850
Logger - 2847
Electric Logs: Schlumberger - DIL-SFL, BHC-sonic with GR.
caliper - T.D.-base surf. csg., CNL-Litho
Density T.D.-680, Spectrolog T.D.-2300 and
Dipmeter.

Electric Log Tops:

<u>Formation</u>	<u>Depth</u>	<u>Datum</u>
Dakota Sandstone	522	(+3074)
Morrison	906	(+2690)
Sundance	1050	(+2546)
Canyon Springs	1325	(+2271)
Spearfish	1400	(+2196)
Goose Egg	1591	(+2005)
Minnekahta	1829	(+1767)
Opeche	1868	(+1728)
Converse (Minnelusa)	2030	(+1566)
Red Shale Marker	2426	(+1170)
Meng Sandstone	2440	(+1156)
2nd Leo Sandstone	2564	(+1032)
4th Leo Sandstone	2723	(+ 873)
Atoka	2796	(+ 800)

Contractor: Shelby Drilling Co., - Rig No. 10
Tool Pusher: John Stewein
Mud Engineer: C.R. Dowler - Baroid
Mud Logger: Eugene Gorman and Lynn Farmer - Chief Well Logging
Drill Stem Tester: Randy Dayhoff - B&S Testers - DST No. 2
 Roy Ellsworth - B&S Testers - DST No. 1
Logging Engineer: Ron Allmaras - Schlumberger
Company Foreman: Gary Harvey - Loren McDonald
Well-Site Geologist: Jim Cox
Status: Turned over to City of Edgemont for deepening to Madison Formation for water well 12:00 A.M., August 14, 1983.

CHRONOLOGICAL HISTORY

August 5, 1983: Spud, drill surface hole to 106: Footage-106 feet.
 August 6, 1983: Drill surface hole from 106 to 315; set surface casing, W.O.C. and drilled from 315 to 520: Footage-414 feet.
 August 7, 1983: Drilled from 520 to 1670: Footage - 1150 feet.
 August 8, 1983: Drilled from 1670 to 2310: Footage - 640 feet.
 August 9, 1983: Drilled from 2310 to 2567: Footage - 257 feet.
 August 10, 1983: Ran D.S.T. No. 1 and drilled from 2567 to 2611: Footage - 44 feet.
 August 11, 1983: Drilled from 2611 to 2648; ran D.S.T. No. 2: Footage 37 feet.
 August 12, 1983: Drilled from 2648 to 2850; ran logs: Footage 202 feet.
 August 13, 1983: Run logs, W.O.O. and release to city of Edgemont.

MUD CHECKS

Date	Depth	Wt.	Vis.	W.L.	F.C.	P.H.	Cum. Cost
8/5-8/8/83	0-1100			Drilling with water			\$ 732.00
8/ 8/83	1948	9.0	31	16.0	2/32	9.5	2,985.00
8/ 9/83	2400	9.1	34	10.4	2/32	10.0	5,585.00
8/10/83	2587	9.0	43	9.4	2/32	10.0	8,348.00
8/11/83	2648	8.9	40	9.2	2/32	10.0	8,721.00
8/12/83	2710	8.9	40	8.8	2/32	10.0	9,640.00

DEVIATION SURVEYS

Depth	Dev.	Depth	Dev.	Depth	Dev.	Depth	Dev.
73	½°	1347	1½°	2587	2°		
227	3/4°	1653	1 3/4°				
469	1 3/4°	2100	2°				

COMPANY TIME RECORD (Geologic Operations)

Date	Depth	Time	Operation
August 8, 1983	2162	1:05	Circ. samples to check 2nd Converse
August 9, 1983	2567	:50	Circ. for D.S.T. No. 1
August 10, 1983	2567	23:00	Run D.S.T. No. 1
August 11, 1983	2648	18:20	Run D.S.T. No. 2
August 12, 1983	2850	9:25	Circ. and condition and run logs.
August 13, 1983	2850	24:00	Finish logging and W.O.O.
TOTAL		76:40	

DRILL STEM TEST DATA

D.S.T. Number 1 - 2519-2587 (Minnelusa Conventional)

Open 10" - S.I. 60" - open 60" - S.I. 120"

Tool opened on pre-flo with good blo air (bottom of bucket in 30 seconds) decreased to fair blo air (6" wtr.) in 9 minutes.

Note: Blo died immediately after initial shut in.
Tool opened on 2nd flo with fair blo air (8" water) slowly decreased and died in 26 minutes of 2nd flo.

Recovered 2531'; total fluid consisting of:

2531 feet of mud cut H₂S water
RW .44 @ 88° recovery water 11,500 ppm Cl.
RW 4.4 @ 86° make up water 975 ppm Cl.

Chamber Recovery

2000 cc water RW .30 @ 88° 17,500 ppm Cl.
75 psi

BHT 102°

IHP - 1236
IFP - 440
FFP - 703
ISIP - 1149
IFP - 861
FFP - 1149
FSIP - 1149
FHP - 1164

D.S.T. Number 2 - 2625-2648 (Minnelusa Conventional)

Open 10" - S.I. 30" - open 60" - S.I. 120"

Tool opened on pre-flo with strong blo air (bottom of bucket immediately) remained strong blow thruout pre-flo.

- Blo died in 1 minute after initial shut-in - Tool opened on 2nd flo with strong blo air (bottom of bucket immediately) slowly decreased to surface bubbles in 40 minutes, remained surface bubbles til end of 2nd flo.

- Blo died immediately after final shut-in

Recovered 1190' H₂S cut water (6000 ppm H₂S) RW .28 @ 92° - 18,000 ppm Cl.

Chamber Recovery

2400 cc water .28 @ 92° - 18,000 ppm Cl

Make up water - RW 4.4 @ 86° - 975 ppm Cl.

IHP 1 1280

FHP - 1280
 IFP - 94 pre-flo
 FFP - 141 pre-flo
 IFP - 283 2nd flo
 FFP - 503 2nd flo
 ISIP - 1164
 FSIP - 1164

BHT - 102°

SAMPLE DESCRIPTIONS

Descriptions begin at 490 in lower Cretaceous and are lagged.

Sample Intervals: 30' 490-1680
 20' 1680-2000
 10' 2000-

490-520 Shale - Medium-dark gray, soft, silty in part.
 520-55 Sandstone - Light gray-tan, very fine grained to silty, fairly firm, fair P and P, no visible shows.
 550-580 Sandstone - As above becoming medium to medium coarse, poorly sorted, micaceous
 580-610 Shale - Light gray-tan, soft, argillaceous, mottled with dark red shale, silty.
 610-640 Shale and sandstone as above with abundant coal.
 640-670 Shale - Medium gray, very silty, very slight greenish cast with much sandstone, very light gray, fine grained and siltstone medium gray.
 670-860 Shale - Light-medium gray, soft, some light tan, some with very pale, greenish cast, sub-waxy, scattered coal and sandstone as above.
 860-940 Shale - As above with some shale, dark gray, flakey, gold florescence, no cut with trace sandstone, light tan, very fine grained.
 940-960 Shale - As above with much very dark gray-black, blocky shale and shale dark greenish-gray.
 960-1070 Shale - Light greenish-gray-tan, soft, silty and glauconitic in part and limestone, light tan-brown, micro-xlm., siliceous in part.
 1070-1100 Shale - As above with trace sandstone, white, very fine grained, rounded, quartzitic, poor P and P, no visible shows.

SAMPLE DESCRIPTIONS (continued)

- 1100-1130 Siltstone - Light-medium greenish-gray, firm with shale as above and some sandstone as above, very limey.
- 1130-1160 Shale - and siltstone as above.
- 1160-1220 Shale and siltstone as above with some siltstone, brown and sandstone, light greenish-gray, silty, glauconitic, very fine grained, firm, poor to no P and P, no visible shows.
- 1220-1250 Sandstone - Reddish-brown, very fine grained to silty, fairly firm, poor P and P, no visible shows.
- 1250-1310 Sandstone - Light greenish-gray, very fine grained to silty, glauconitic, slightly micaceous, firm, very limey, poor P and P, no visible shows with shale and siltstone as above.
- 1310-1370 Shale and siltstone as above with some sandstone as above.
- 1370-1400 Sandstone - Very light greenish-gray, very fine grained, quartzitic, very slightly micaceous, rounded, very limey, poor-fair P and P, fairly soft, no visible shows.
- 1400-1580 Shale - Brick red, silty, gritty, with occasional siltstone brick red, sandy, firm.
- 1580-1610 Shale - As above with scattered anhydrite, white-frosted, fairly soft and some soft, white gypsum.
- 1610-1680 Anhydrite - White-light gray, clear-frosted, fairly firm with shale and siltstone as above.
- 1680-1710 Shale - and siltstone as above with occasional anhydrite as above.
- 1710-1840 Anhydrite - Shale and siltstone as above.
- 1840-1880 Limestone - Light tan-pink, fairly firm, dense to micro-xln.
- 1880-2020 Shale - And siltstone as above.
- 2020-2030 Shale - And siltstone as above becoming very siliceous
- 2030-2080 Shale - And siltstone as above with some sandstone, red quartzitic, firm, anhydritic, poorly sorted, very fine-fine-silty, poor to no P and P, no visible shows and limestone, light pink, micro-xln., very siliceous in part, and scattered anhydrite, clear frosted.
- 2080-2090 Shale - And siltstone as above with much anhydrite, white frosted and limestone, pink.

SAMPLE DESCRIPTIONS (continued)

- 2090-2120 Anhydrite - Light gray, clear-frosted, firm with occasional siltstone and shale as above.
- 2120-2140 Anhydrite - Shale and siltstone as above with dolomite, light gray-brown, dense, hard.
- 2140-2162 Shale - and siltstone as above with trace sandstone, white-very light gray, quartzitic, rounded, fairly firm, anhydritic, poor P and P, no visible shows.
- 2162-circ. sples. Had drilling break at 2142 from 4.2 to 2.2 min./ft. to 2158 (18').
- 15-45 min Shale - and sandstone as above
- 2162-2170 Shale - Sandstone and siltstone as above
- 2170-2190 Limestone - Light tan, earthy, fragmental, lithographic shale inclusions, some micro-xln., to finely xln., soft, brittle, no visible shows, with anhydrite, clear-frosted and occasional shale as above.
- 2190-2200 Anhydrite - As above, with some limestone and shale as above.
- 2200-2210 Sandstone - Light gray-pink-red, fine grained, quartzitic, firm, anhydritic, firm, poor to no P and P, no visible shows.
- 2210-2220 Sandstone - As above, mostly, light gray and becoming very fine grained, poor P and P, no visible shows.
- 2220-2240 Limestone - Light tan, dense to crypto-xln., firm, few with floating quartz and scattered anhydrite as above.
- 2240-2250 Sandstone - Light gray-pink-red as above, no visible shows with limestone, anhydrite and shale as above.
- 2250-2260 Dolomite and limestone - Light gray-tan-pink, dense, firm with anhydrite, clear-frosted.
- 2260-2270 Sandstone - Red, very fine grained to silty, very anhydritic, hard, poorly sorted, angular to rounded, shaley in part, very poor to no P and P, no visible shows, with dolomite as above.
- 2270-2300 Sandstone - As above with increase in dolomite and limestone as above and shale, brick red.
- 2300-2330 Dolomite - and limestone as above, some with floating fine-medium fine quartz.
- 2330-2410 Dolomite - and limestone as above with sandstone, pink, fine grained, hard, anhydritic, very poor - no P and P, no visible shows and red, silty shale occasionally interbedded.

SAMPLE DESCRIPTIONS (continued)

- 2410-2440 Sandstone - Light gray-pink, fine grained, firm, anhydritic, poor P and P, no visible shows, scattered black shale.
- 2440-2450 Dolomite - and limestone - as above.
- 2450-2520 Dolomite and limestone - As above with much, black coaly, shale, firm with thin, light gray partings and inclusions. (4 units gas increased 36 units to total of 40 units 22 units C₁, 8 units C₂) and occasional sandstone, light gray, fine grained, firm, anhydritic, no P and P, no visible shows.
- 2520-2530 Dolomite - As above with increase in sandstone, light gray, fine grained, quartzitic, rounded-sub-rounded, dolomitic in part, hard, poor to no P and P, very pale gold lime florescence, no cut., no visible shows.
- 2530-2540 Dolomite - Light gray-tan-pink, dense to crypto-xln., hard with anhydrite, white to frosted and scattered, black shale as above.
- 2540-2550 Dolomite - Medium gray, dense, hard with some sandstone, light gray, fine grained, limey in part, firm, poor P and P, some with very light oil staining (greasy appearance) very pale, gold florescence, very poor, slow streaming cut, very poor cut when crushed. (3 units bkgrd. gas increased 7 units to total of 10; 10 units C₁ - 2 units C₂)
- 2550-2560 Dolomite - and black shale as above with some sandstone, medium gray, fine grained, quartzitic, hard, some with heavy, dead, black oil staining in isolated porosity, no apparent permeability, no florescence or cut, some spotty live oil staining on scattered pieces and some live oil staining in hairline fractures in dolomite.
- 2560-2587 Sandstone - White-very light gray, very fine grained, quartzitic, rounded-sub-rounded, soft, friable, good P and P, no visible shows.
- Ran D.S.T. No. 1 2519-2587
- 2587-2600 Dolomite - Medium gray, firm, dense with scattered black shale as above.
- 2600-2610 Shale - Black, coaly, firm with dolomite as above. (12 units bkgrd. increased 58 units to 70 total).
- 2610-2648 Sandstone - Medium gray, fine grained, very limey and dolomitic, hard, very poor to no P and P, no visible shows, with dolomite as above, becoming very sandy, pale, gold, mineral florescence, no cut, some pieces with poor

SAMPLE DESCRIPTIONS (continued)

cut when crushed, no visible staining. (12 units
bkgrd. gas increased 16 units to total 28; 18 units
C₁, 6 units C₂, 4 units C₃ @ 2632)

Had drilling break @ 2629 from 4.0 - .5 - 1 min./ft.
to 2640 (11')

2648 circ.
sples.

Sandstone and dolomite as above.

Ran D.S.T. No. 2 2625-2648

2648-2680

Dolomite - and black shale as above, occasionally sandy
in part.

2680-2710

Dolomite - and shale as above with increase in sandstone -
light gray, fine grained, quartzitic, firm, dolomitic
and anhydritic, firm, poor P and P, no visible shows,
some with spotty, dead oil staining as above.

2710-2740

Dolomite, shale and sandstone as above with much lime-
stone, medium-dark gray-brown, dense, hard.

2740-2750

Dolomite - As above with much siltstone and shale, light
gray-green, firm and trace red siltstone.

2750-2790

Sandstone - White, very fine grained, quartzitic, rounded,
fairly friable, limey-dolomitic in part, fair P and P, no
visible shows with siltstone and shale as 2740, sandstone
has mineral florescence, no cut, no visible staining, with
some shale, bright green, gray and red.

2790-2800

Shale - Varicolored, light tan, gray, green, red, mottled
with purple, silty to sandy in part, with siltstone, light
gray-green.

2800-2820

Shale - and siltstone as above with much sandstone, as
2750.

2820-2850

Shale - and siltstone varicolored as above.

2850 Total Depth Driller

SUMMARY AND RECOMMENDATIONSummary

All potentially oil productive zones in this hole were barren
of oil shows and contained only water as revealed by both sample and
E. Log examination. Drill Stem Tests were run in the 2nd and 3rd Leo
Sandstones recovering only H₂S cut water. Porosities and pressures
were good in these zones and a slight increase in gas was encountered
but no visible staining or hydrocarbon florescence was found. The
sands were limey and a pale gold florescence was visible but no cut
evident. The only visible shows seen in the hole were found above the
2nd Leo Sandstone from 2540-2560 in a very hard, quartzitic sandstone.

SUMMARY AND RECOMMENDATION (continued)

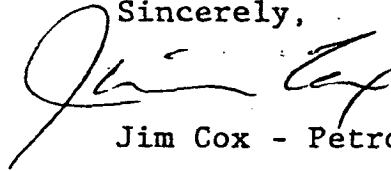
These shows appeared to be dead, residual oil as a result of permeability isolating the oil around the sand grains. This interval was covered by Drill Stem Test No. 1.

Recommendation

It is recommended by the well-site geologist that the hole be plugged and abandoned.

Note: After negotiations between the City of Edgemont and Bass Enterprises, the hole was transferred to the City of Edgemont for deepening to the Madison and conversion to a municipal water well.

Sincerely,

A handwritten signature in dark ink, appearing to read "Jim Cox", is written over the typed name.

Jim Cox - Petroleum Geologist, Inc.

RECEIPT

Division of Water Rights

No 4 9335

South Dakota Department of Water and Natural Resources

Pierre, September 13, 1983

RECEIVED OF City of Edgemont, Box A, Edgemont, SD 57735

the following amount in fees for services rendered as provided for by law:

Fee for Application for Permit No. 1853-2 to Appropriate Water, to construct works and to put water to beneficial use	350	00
Fee for Application for Permit No. to Appropriate Water for Future Use		
Fee to retain Future Use Permit No. after period of seven years.		
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No.		
Fee for Filing Transfer Form		
Fee for Filing Extension Request		
Fee for Certified Copy of		
Fee for Print Copy of Map		
Fee for Certifying		
Fee for		
(Any Other Work Provided by Law)		
Total	350	00

By

Chief Engineer

JOHN HATCH/ms

MEMORANDUM

TO: Rocky Mountain Division
FOR: Files
FROM: Bill Hulse
RE: New Location
City of Edgemont
SW SE Sec. 2, T-9-S, R-2-E
Fall River Co., South Dakota
2100' FEL, 1300' FSL
EL 3581.1'
FILE: 400 - WF

DATE: June 8, 1983

COPY:

Geological Justification:

Bass Enterprises Production Company proposes to change the location of the City of Edgemont #2-32 well, a 2730' Atoka test. Originally surveyed in the SW SE (650' FSL, 2100' FEL), of Section 2, T-9-S, R-2-E, we proposed to move the location to 1300' FSL, and 2100' FEL of the same section. The reasons for the move are threefold.

First, the seismic that we have available has an amplitude anomaly present at the newly proposed location. According to a geophysical study, this amplitude anomaly may indicate a thick sandstone development in the 2nd Leo zone. (The seismic tool cannot differentiate sandstone less than 20' thick). The old location did not have an amplitude anomaly present. Secondly, the seismic also shows a small reversal at this location. We also want to be structurally high to the City of Edgemont water well #4, which had 27' of 2nd Leo sandstone. The Peter Roosevelt #1 Dutoit, which was flat to the City of Edgemont well, recovered water out of the 2nd Leo ss. Although it is open to interpretation whether the sand in the two wells is part of the same body, we prefer to be in the updip direction. For these reasons, we ask for approval for the exception location.

/lr

Water Rights Division
605 773-3352

July 26, 1983

Peter Zeimet, Mayor
City of Edgemont
Edgemont SD 57735

Dear Mayor Zeimet:

Regarding our phone conversation enclosed are our forms and instructions to make application for a water permit. As stated the oil company should contact Fred Steece, in Rapid City regarding the conversion of the oil test well to a water well. When submitting the application all the information regarding the construction, etc. of the well must be enclosed with the application.

If you have any questions, please contact this office.

Sincerely,

BETTY WESTLUND
Water Rights Specialist

BW:ks

enclosures

SUNDRY NOTICES AND REPORT ON WELLS		FARM OR LEASE NAME
		BASS EDMONT
☒ OIL WELL ☐ GAS WELL ☐ ----- ☐ DRY		WELL NO.
		2-32
OPERATOR BASS ENTERPRISES PRODUCTION COMPANY		FIELD AND POOL, OR WILDCAT
		WILDCAT
ADDRESS 1000 WRITER SQUARE, 1512 LARIMER STREET, DENVER, CO 80202		NO. ACRES IN LEASE
LOCATION (In feet from nearest lines of section or legal subdivision, where possible) 1300' FSL 2100' FEL SW SE Section 2, T-9S R-2E		¼ ¼ SEC. TWP. RGE.
		SW SE Sec 2 9s, 2E
ELEVATIONS (D.F., R.K.B., R.T., GRD., etc.; how determined) GL 3581		COUNTY
		FALL RIVER

INDICATE BELOW BY CHECK MARK NATURE OF REPORT, NOTICE OR OTHER DATA

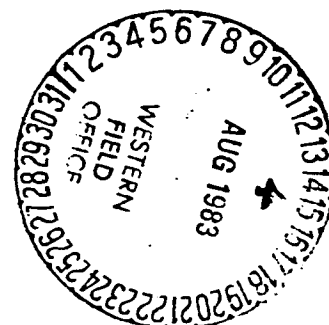
NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF ☐	SHOOT OR ACIDIZE ☐	WATER SHUT-OFF ☐	SHOOTING OR ACIDIZING ☐
FRACTURE TREAT ☐	REPAIR WELL ☐	FRACTURE TREATMENT ☐	REPAIRING WELL ☐
MULTIPLE COMPLETE ☐	PULL OR ALTER CASING ☐		ALTERING CASING ☐
ABANDON ☐			

(Note: Report results of multiple completion on Well Completion or Recompletion and Log Form—Form 4)

DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work)

Spud Well 3:00 A.M. 08/06/83
Ran 315' of 5/8 36# K-55 St & C CSG
Cement W 250 St Class G

a-5/8



I hereby certify that the foregoing as to any work or operation performed is a true and correct report of such work or operation.

SIGNED [Signature] TITLE ASSISTANT PRODUCTION FOREMAN DATE August 9, 1983

Approved AUG 15 1983

Date

CONDITIONS, IF ANY:

DO NOT WRITE BELOW THIS LINE

OIL AND GAS BOARD OF THE STATE OF SOUTH DAKOTA

[Signature] Secretary

BOND RELEASE CHECKLIST

Well Name and Location

Bass #2-32 Edgemont
9S-2E-2 SWSE - Fall River
~~650~~ FSL & 2100 FEL

Permit # 1263

API # 40 047 20156

1300
6-28-83

Plugging Bond No. 4420885

Surface Bond No. Form 9 City of
Edgemont

Surface Restoration

 Pits filled

 Site Level

 Site policed

 Dry-hole marker correct, solid, sealed

 No dry-hole marker desired, letter in WFO files from surface
owner

 Letter of approval from surface owner

Paperwork filed

 Form 4 (Completion or Recompletion Report)

 ✓ Form 6 (Sundry Notice and Report on Wells)

 Form 7 (Plugging Report)

Geological Information Filed

 Well Logs: ACNE 9-15-83

 DST Charts and Reports

 Geologist's Report

 Results of coring and core analyses

 Set of 10-foot sample cuttings (Check with Bob Schoon)

Date Checked By

CITY OF EDMONT

EDMONT, S. D., 57735

Aug. 20, 1983



S.D. State Water Rights Board
Pierre, S.D.

Dear Sirs:

On August 13, 1983, Bass Petroleum completed drilling a test well for oil on our city owned property adjacent to the air port. After evaluation the test was determined to be a "dry hole". By previous negotiation and conference with Fred Steece, state geologist, the hole was turned over to the City of Edgemont for development of water in the Madison Aquifer. We have been on "no outside watering" restrictions for a month due to trouble with the pump in our # 4 Well. We were very anxious to develop some sort of reserve water when any of our wells fail to produce.

Drilling proceeded to the top of the Madison formation and 7" casing was cemented in from 3066' to the top of the well. A smaller bit, 6 and 1/8th was used to drill to 3536' for completion of the hole. Drilling was very difficult due to the broken formation of the rock at this depth. No cuttings were returned after 3160'. We were in apparent solid formation at the bottom of the hole. The well was flushed and a very good artesian flow developed of an estimated 800 gpm. A valve was installed and the flow shut in and complete evaluation of the flow will be done after the drill rig is moved and proper work is done at the well site.

Complete plans for this well are not complete yet but we expect to install a control valve next to the shutoff valve, install a 6" pipe line to the city storage system, and blend it into the system as needed. All of our water is from this same aquifer. If we are still drastically short on when our # 4 well is back in full operation, we want to do it within the next 60 days, pending approval of the enclosed application for use. Finance is also a problem as time did not permit us to secure any help from grants. However, total costs will probably be about 1/3 of expected costs if a well was developed otherwise.

We used the services of Jim Cox, an eminent geologist, who was already on site. He will be providing all the necessary information for us to answer all questions. Please review our application as soon as practical and call or write us for any information needed.

Sincerely

A handwritten signature in cursive script that reads "Peter W. Zeimet".

Peter W. Zeimet, Mayor

WATER RIGHTS DIVISION
(605) 773-3352

August 24, 1983

Peter W. Zeimet, Mayor
City of Edgemont
Box A
Edgemont, South Dakota 57735

Dear Mayor Zeimet:

Enclosed is the City of Edgemont's application, and additional forms.

The following will be required;

1. Application must be signed and notarized;
2. Complete the enclosed Form 2A (Well information). Also submit a log of the well.
3. A map showing the location of the diversion point. State in rods/feet from the Section line the exact location of the well. Our suggestion is that you use aerial photos which can be obtained from the ASC Office. The map must be signed by your City Engineer or a Registered Professional Engineer.
4. The City is requesting 1.00 cfs which amounts to 730 acre feet annually. The filing fee for this application will be \$350.00.

Upon receipt of the above, further processing of your application will proceed.

Sincerely,

Betty Westlund
Water Rights Specialist

BW:ms
Encc



Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

WATER RIGHTS DIVISION
(605) 773-3352

August 24, 1983

Peter W. Zeimet, Mayor
City of Edgemont
Box A
Edgemont, South Dakota 57735

Dear Mayor Zeimet:

Enclosed is the City of Edgemont's application, and additional forms.

The following will be required;

1. Application must be signed and notarized; ✓
2. Complete the enclosed Form 2A (Well information). Also submit a log of the well.
3. A map showing the location of the diversion point. State in rods/feet from the Section line the exact location of the well. Our suggestion is that you use aerial photos which can be obtained from the ASC Office. The map must be signed by your City Engineer or a Registered Professional Engineer.
4. The City is requesting 1.00 cfs which amounts to 730 acre feet annually. The filing fee for this application will be \$350.00.

Upon receipt of the above, further processing of your application will proceed.

Sincerely,

Betty Westlund
Water Rights Specialist

BW:ms
Enc.

Equal Opportunity Employer

CITY OF EDGE MONT

EDGE MONT, S. D., 57735

Sept. 12, 1983

Water Rights Division, DWNR
Joe Foss Building
Pierre, S.D, 57501



Dear Sirs:

Enclosed please find the following:

1. A check for \$350.00
2. A map of the well location. We took over this location when it was abandoned by Bass Petroleum.
3. A map showing the location of the pipeline to the city storage facilities if approved.
4. A log of the city's portion of this drilling into the Madison formation.

We would like to proceed to pipe the well to the storage facilities before cold weather catches us. The water will probably not be needed in the city system before next summer, but would like to run just enough to keep the well and lines from freezing this winter. Other wells we are using would be controlled to blend in.

Sincerely

Peter W. Zeimet, Mayor



DEPARTMENT OF WATER AND NATURAL RESOURCES
SOUTH DAKOTA GEOLOGICAL SURVEY

WESTERN FIELD OFFICE
36 E. Chicago
RAPID CITY, SOUTH DAKOTA - 57701
(605) 394-2229

September 21, 1983

Bass Enterprises Production Company
100 Writer Square, 1512 Larimer St.
Denver, CO 80202

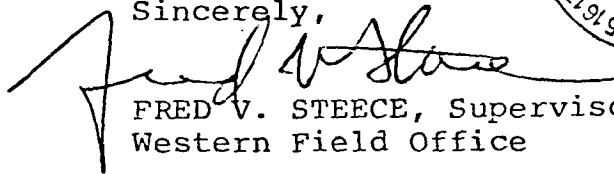
Attn; Ken Morr

Please file two (2) copies of the information indicated below for the oil and gas test(s) or well(s) recently drilled by your company in South Dakota:

Well Name & Location	Logs	Geol. Report	Core Descrip. & Anal.	DST Reports	State Forms
Bass #2-32 Edgemont SWSE 2-9S-2E, Fall River	X	X	X	X	Form 4

Thank you for your cooperation.

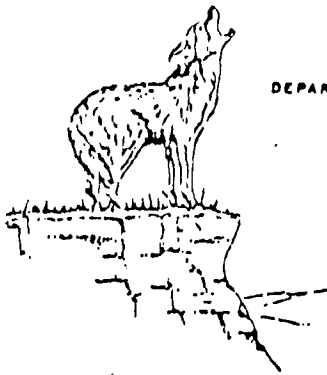
Sincerely,


FRED V. STEECE, Supervisor
Western Field Office



cc: Jim Nelson

Attn: Kevin Larson, Water Rights - we have no information as yet. If you'd call in a couple weeks, we may have something. FVS



DEPARTMENT OF WATER AND NATURAL RESOURCES

WESTERN FIELD OFFICE
36 East Chicano
RAPID CITY, SOUTH DAKOTA - 57701
(605) 364-1559

TO: Kevin Larson, Div. of Water Rights
FROM: Office of Fred V. Steece
SUBJ: Log for Bass #2-32 Edgemont 9S-2E-2 SWSE
DATE: September 15, 1983

As the enclosed "Bond Release Checklist" indicates, we have very little information on the subject well.

Is the partial log copy the City of Edgemont sent you a Compensated Neutron Density Log of the interval from 3050' to 3525 (driller TD 3537')? If so, Wayne Schroeder (Fred's Assistant) says this log was made by the City after taking over from Bass.

We will contact Bass for the missing information. If you need to contact Bass:

Ken Morr or Bill Hulse (303)571-1314 - also Dick McNeal.



Report On The City of Edgemont
Application No. 1853-2
September 27, 1983

Application No. 1853-2 requests 1.0 cfs from one 3536 feet deep Madison Limestone well. This is an abandoned oil test well converted by the City to a water well. Logs and well construction data are available or forthcoming. As yet, no flow or pressure data has been submitted with this application.

AQUIFER - Madison Limestone

GEOLOGY AND AQUIFER CHARACTERISTICS

The Madison Limestone can be described as a massive white to gray dolomitic limestone cavernous in the upper part and approximately 300 feet thick in the Edgemont area. The aquifer is under artesian conditions and has been reported to yield from 300 to 1000 gpm of 125° F water at 70 to 110 PSI depending upon the land surface elevation. For further geologic and hydrologic data see the bibliography.

In general, the Madison is considered a largely undeveloped aquifer with tremendous potential. Estimates (Rahn, 1981) suggest there are 66 million acre feet of water less than 1000 PPM TDS available to wells in South Dakota. This is only a small portion of the total water in storage of 1327 million acre feet (Rahn 1981). Recharge to the Madison in the Black Hills region has been a continuing dispute, but most sources indicate a range of 90,000 to 250,000 acre feet per year as a reasonable estimate. The final technical report (well field hydrology) for ETSI describes a scenario of anticipated drawdowns and interference from pumping fairly large amounts of Madison water from a relatively small area. These predictions on appearance seemed significant, but in reality only created a fluctuation of a few hundred feet of artesian head. Without site specific data for Edgemont, I do not think an attempt at a rigorous study of interference is warranted. Certainly the wells will mutually interfere but this should be only a few tens of feet at the most and would not impair the amount of water available from the aquifer. South Dakota statutes specifically do not protect artesian head as a means of diversion.

REVIEW OF EXISTING WATER RIGHTS

<u>Permit No.</u>	<u>Amount</u>	<u>No. of Wells</u>	<u>Aquifer</u>	<u>Depth</u>
306-2 City of Edgemont	.31 CFS	1)	Madison	2955'
735-2 TVA	.66 CFS	1)	Madison	3060'
761-2 City of Edgemont	.41 CFS	1)	Madison	3458'

According to existing data, Edgemont also has two existing Madison wells drilled in 1912 and 1936 which are not covered by existing water rights but these would be considered as vested rights. There are very few Madison wells in Fall River County. The closest existing water right is about 3 miles northwest of Edgemont and other than possibly some rural domestic use, the rural water system at Igloo is the only other Madison water user.

CONCLUSIONS

1. There is water available for this application.

2. Interference with existing city wells and TVA is likely but should not impair the water availability from the aquifer.
3. Any interference would amount to a few 10's of feet.
4. City wells and the TVA wells are constructed so that if necessary, pumps can be installed.
5. This is a domestic use of water stratigraphically lower than the Greenhorn Formation.
6. The well under this permit should flow and should have the artesian well qualification upon the permit.
7. Edgemont should be aware of possible radionuclides in excess of Safe Drinking Water Standards in this ground water.

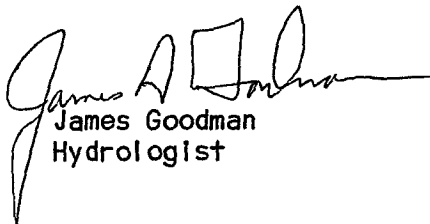
BIBLIOGRAPHY

Rahn, P., 1981. Western SD Groundwater. GSA Rocky Mtn. Guidebook, 1981, Annual Meeting, Rapid City, SD.

Rahn, P. and J. Gries. 1973. Large Springs in the Black Hills, South Dakota and Wyoming. Report of Investigations 107. Vermillion: SDGS Water Rights, 1983. Permit Files and Well Log Data. Joe Foss Building, Pierre, SD.

Woodward-Clyde Consultants. 1981. ETSI Environmental Impact Statement. Bureau of Land Management.

Woodward-Clyde Consultants. 1981. Well Field Hydrology. Final Technical Report. Bureau of Land Management.


James Goodman
Hydrologist

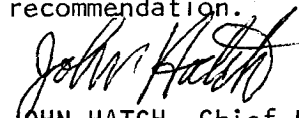
RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION No. 1853-2, City of Edgemont

Pursuant to SDCL 46-2A-2, the following is the recommendation of the Chief Engineer, Water Rights Division, Department of Water and Natural Resources concerning Water Permit Application No. 1853-2, City of Edgemont, Box A, Edgemont, South Dakota.

The Chief Engineer is recommending APPROVAL of Application No. 1853-2 because 1) there is reasonable probability that there is unappropriated water available for the applicant's proposed use, 2) the proposed diversion can be developed without unlawful impairment of existing rights, 3) the proposed use is a beneficial use and 4) in the public interest with the following qualifications:

1. The construction of this Madison Formation well shall include pressure grouting with cement (bottom to top) of the casing above the water producing formation and compliance with Board well construction rules.
2. The well approved under this Permit shall be valved and the flow reduced to a minimum when not being used. The wells shall also be equipped with pressure gauges and records kept of any pressure fluctuations. Such records shall be available to the Board, upon request. If these wells are abandoned or the Permit cancelled, the wells must be plugged in accordance with specifications of the Water Management Board.
3. The well approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner, under this Permit, shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.

The attached report is a part of this recommendation.


JOHN HATCH, Chief Engineer
October 11, 1983

Instruction to Newspaper - Publish first publication of the following Notice on or before October 19, 1983 with 2nd publication 1 week later. The applicant is responsible for payment.

NOTICE OF HEARING on Application No. 1853-2 to Appropriate Water
~~and/or to Amend Water Permit or Water Rights No. _____~~

Notice is hereby given that the City of Edgemont whose mailing address is Box A, Edgemont, South Dakota has made an application for a permit to appropriate 1.00 cubic feet per second from groundwater from a 3536 foot deep Madison Formation well through the City Well #5 the points of diversion to be located in the SW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 2, T9S, R2E. Said water to be used for the purpose of providing water supplies for municipal use.

Pursuant to SDCL 46-2A-2 the Chief Engineer of the Water Rights Division recommends APPROVAL of Application No. 1853-2 because 1) unappropriated water is available, 2) will be no unlawful impairment of existing rights, 3) is beneficial use of water and 4) is in the public interest.

This application will be considered by the Water Management Board at Room 216, Joe Foss Building, 523 E Capitol, Pierre, South Dakota on November 30, 19 83 at 10:00 am.

The recommendation of the Chief Engineer is not final or binding upon the Board and the Board is authorized to make a determination on this application after it reaches a conclusion based upon facts presented at the public hearing. Any interested person who may be affected by a Board decision and who intends to participate in the hearing before the Board and present evidence or cross-examine witnesses according to SDCL 1-26, must file a written petition with BOTH the Applicant and the Chief Engineer by November 18, 1983. The petition may be informal, but it must include a statement describing the petitioner's interest in the application, the reason for the petitioner's opposition to or support of the application, and the signature and mailing address of the petitioner or his legal counsel if legal counsel is obtained. The applicant need not file a petition.

This application is made pursuant to the provisions of SDCL 46-1-1 thru 46-1-9, 46-1-12 thru 46-1-15; 46-2-3.1, 46-2-9, 46-2-11, 46-2-13, 46-2-17, 46-5-1 thru 46-5-16, 46-5-24, 46-5-25, 46-5-30.2, 46-5-31; 46-2A-1 thru 46-2A-10, 46-2A-12; ~~(ground) 46-6-3, 46-6-3.1, 46-6-6.1, 46-6-10, 46-6-13, 46-6-14; (future use) 46-5-38 thru 46-5-40; (transfer lands) 46-5-30.4, 46-5-33 thru 46-5-35, (10,000 AFA) 46-5-20.1, 46-5-8.1, and Board Rules ARSD 74:02:01:01 thru 74:02:01:15; (future use) 74:02:01:24 thru 74:02:01:25; (10,000 AFA) 74:02:01:15:02 thru 74:02:01:15:05.~~

This hearing is an adversary proceeding. The applicant or any person, after filing a petition, has the right to be present or to be represented by a lawyer. These and other due process rights will be forfeited if they are not exercised. Decisions of the Board may be appealed to the Circuit Court and the State Supreme Court as provided by law.

Any person wishing a copy of the Chief Engineer's recommendation, further information on this application or to assure access to the hearing by the handicapped can contact the Water Rights Division, DWRN, Joe Foss Bldg, Pierre SD (605 773-3352) for assistance prior to the hearing date. The time of the hearing will be automatically extended for at least twenty days upon written request of the applicant or any person who has filed a petition to oppose or support the application. The request for extension must be filed with the Chief Engineer by November 18, 1983.

No. 1853-2

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
County Fall River) ss.

I, Kathy S. Worell hereby

certify that the annexed printed copy of Notice of Intent to Appropriate

Water was taken from the Edgemont Herald Tribune

A newspaper which during the whole time of publication of said notice
herein after stated, has been and is printed and published in the _____

City of Edgemont

County of Fall River and State of South Dakota;
that the said notice was published in said newspaper on the following
two dates:

October 19, 1983

October 26, 1983

Kathy S. Worell
(Signature)

Bookkeeper
(Title)

October 27, 1983
(Date Signed)

Cost of Printing: \$32.83



NOTICE OF HEARING
on Application No. 1853-2
to Appropriate Water

Notice is hereby given that the City of Edgemont whose mailing address is Box A, Edgemont, South Dakota has made an application for a permit to appropriate 1.00 cubic feet per second from groundwater (a 3536 foot deep Madison Formation well) through City Well #5 the points of diversion to be located in the SW 1/4 SE 1/4 of Section 2, T9S, R2E. Said water to be used for the purpose of providing water supplies for municipal use.

Pursuant to SDCL 46-2A-2 the Chief Engineer of the Water Rights Division recommends APPROVAL of Application No. 1853-2 because 1) unappropriated water is available, 2) will be no unlawful impairment of existing rights, 3) is beneficial use of water and 4) is in the public interest.

This application will be considered by the Water Management Board at Room 216, Joe Foss Building, 523 E Capitol, Pierre, South Dakota on November 30, 1983 at 10:00 a.m.

The recommendation of the Chief Engineer is not final or binding upon the Board and the Board is authorized to make a determination on this application after it reaches a conclusion based upon facts presented at the public hearing. Any interested person who may be affected by a Board decision and who intends to participate in the hearing before the Board and present evidence or cross-examine witnesses according to SDCL 1-26, must file a written petition with BOTH the Applicant and the Chief Engineer by November 18, 1983. The petition may be informal, but it must include a statement describing the petitioners interest in the application, the reason for the petitioner's opposition to or support of the application, and the signature and mailing address of the petitioner or his legal counsel if legal counsel is obtained. The applicant need not file a petition.

This application is made pursuant to the provisions of SDCL 46-1-1 thru 46-1-9, 46-1-12 thru 46-1-15; 46-2-3.1, 46-2-9, 46-2-11, 46-2-13, 46-2-17; 46-5-1 thru 46-5-16, 46-5-24, 46-5-25, 46-5-30.2, 46-5-31; 46-2A-1 thru 46-2A-10, 46-2A-12; 46-6-3, 46-6-3.1, 46-6-6.1, 46-6-10, 46-6-13, 46-6-14; and Board Rules ARSD 74:02:01:01 thru 74:02:01:15.

This hearing is an adversary proceeding. The applicant or any person, after filing a petition, has the right to be present or to be represented by a lawyer. These and other due process rights will be forfeited if they are not exercised. Decisions of the Board may be appealed to the Circuit Court and the State Supreme Court as provided by law.

Any person wishing a copy of the Chief Engineer's recommendation, further information on this application or to assure access to the hearing by the handicapped can contact the Water Rights Division, DWR, Joe Foss Bldg., Pierre, SD (605-773-3352) for assistance prior to the hearing date. The time of the hearing will be automatically extended for at least twenty days upon written request of the applicant or any person who has filed a petition to oppose or support the application. The request for extension must be filed with the Chief Engineer by November 18, 1983.

(#5244-95-42-43)



DEPARTMENT OF WATER AND NATURAL RESOURCES
SOUTH DAKOTA GEOLOGICAL SURVEY
WESTERN FIELD OFFICE
36 EAST CHICAGO
RAPID CITY, SOUTH DAKOTA - 57701
PHONE - (605) 394 - 2229

TO: Kevin Larson - Water Rights
FROM: Office of Fred V. Steece
SUBJ: Bass #2-32 Edgemont - water well
DATE: October 10, 1983 .

We have received well information (enclosed) from Bass Enterprises which you requested on 9/15/83.

Besides the Dual Induction log, we received a copy of Compensated Neutron-Litho Density; Four-Arm High Resolution Continuous Dipmeter; and Electromagnetic Propagation. Please let us know if you'd like copies of these other logs also.



Enclosures - well info
9S-2E-2 SWSE, Fall River

Mary Jane
Department of Water And
Natural Resources
Western Field Office
36 E. Chicago
Rapid City, SD 57701

JIM COX

petroleum geologist, inc.

8804 West Quarto Avenue
Littleton, Colorado 80123
(303) 973-0493



GEOLOGIC REPORT

Bass Enterprises
City of Edgemont No. 2-32
Fall River County, South Dakota



WELL COMPLETION OR RECOMPLETION
REPORT AND LOG

TYPE OF COMPLETION ☐ Oil Well ☐ Gas Well ☐ New Well ☐ Work-Over ☐ Deepen ☐ Plug Back ☐ Same Zone ☐ Diff Zone				Turn well over to City of Edgemont for water well			
OPERATOR				FARM OR LEASE NAME Bass Edgemont			
ADDRESS 1512 Larimer St., Ste 1000, Denver, CO 80202				WELL NO. 2-32			
LOCATION (In feet from nearest lines of section or legal subdivision where possible)* Surface SWSE 1300' FSL 2100' FEL Sec. 2, T-9S R-2E Top prod. interval Same At total depth same				FIELD AND POOL, OR WILDCAT wildcat			
PERMIT NO. 1263				DATE ISSUED 3-23-83		PREVIOUS PERMIT NO. ---	
DATE SPUDDED 8-6-83				DATE T.D. REACHED 8-12-83		DATE COMPL. (Ready to Prod.) ---	
TOTAL DEPTH (MD & TVD) 2850				PLUG. BACK T.D. (MD & TVD)		ELEVATIONS (DF, RKB, RT, GR, etc.)* KB 3594	
PRODUCING INTERVAL(S), THIS COMPLETION, TOP, BOTTOM, NAME (MD & TVD)* This well was turned over to the City of Edgemont to drill down to the Madison formation for a water well for the City 8-14-83				IF MULTIPLE COMPL. HOW MANY*		ELEV. CASINGHEAD FLGE. --	
TYPE ELECTRIC AND OTHER LOGS RUN (Circle those filed) DIL, LDT, CNL, BHC, EPT, HDT, NGT				INTERVALS DRILLED BY All		ROTARY TOOLS None	
DATE DIRECTIONAL SURVEY SUBMITTED None				CABLE TOOLS None		DATE ISSUED -----	
WAS WELL CORED No				DATE DIRECTIONAL SURVEY SUBMITTED None			
CASING RECORD (Report all strings set in well)							
CASING SIZE	DEPTH SET (MD)	HOLE SIZE	WEIGHT LBS./FT.	PURPOSE	SACKS CEMENT	AMOUNT PULLED	
9-5/8	315	12-1/4	36	Surface	250	None	
Turned over to the City of Edgemont for water well							
LINER RECORD							
SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
TUBING RECORD							
SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
PERFORATION RECORD							
DEPTH INTERVAL (MD)	HOLES PER FT.	SIZE AND TYPE	PURPOSE	AMOUNT AND KIND OF MATERIAL USED	ACID, SHOT, FRAC., CEMENT SQUEEZE, Etc.		
PRODUCTION							
DATE FIRST PRODUCTION	PRODUCING METHOD (Flowing, gas lift, pumping, size & type of pump)				WELL STATUS (Prod. or shut-in)		
DATE OF TEST	HOURS TESTED	CHOKE SIZE	PRODUCTION FOR TEST	OIL, Bbls.	GAS, Mcf.	WATER, Bbls. & %	OIL GRAVITY-API (Corr.)
FLOW. TUBING PRESSURE	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL, Bbls.	GAS, Mcf.	WATER, Bbls. & %	GAS-OIL RATIO	
DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)							
LIST OF ATTACHMENTS							
I hereby certify that the foregoing and attached information is complete and correct as determined from all available records.							
SIGNED <i>[Signature]</i>				TITLE Asst. Production Foreman			
DO NOT WRITE BELOW THIS LINE							

Approved

Date

OIL AND GAS BOARD OF THE STATE OF SOUTH DAKOTA

Secretary



1853-2

Department of Water & Natural Resources

Joe Foss Building
623 East Capitol
Pierre, South Dakota 57501

January 4, 1984

City of Edgemont
Box A
Edgemont, South Dakota 57735

Dear Sir:

Enclosed herewith is your Water Permit No. 1853-3 as approved by the Water Management Board authorizing you to construct your water diversion system and the water to beneficial use, not exceeding the limits as specified in said Water Permit No. 1853-3.

Also enclosed is Form 10, Notice of Completion of Works and Application of Water to Beneficial Use, which you are to complete and submit to the Chief Engineer when you have completed the system and/or have put the water to beneficial use. An inspection can then be scheduled so that your Water License may be issued to you, thus completing your acquisition of a Water Right.

Very truly yours,

JOHN HATCH, Chief Engineer
Water Rights Division

JH: ms

enclosure

PLEASE NOTE: Certain changes can be made in your permit within the five year construction period, usually without affecting the priority date provided an application to amend your permit is made within the five year period-i.e. changes in location or number of diversion points (wells) or location of land to be irrigated. Well locations for wells into the same aquifer can be moved up to 660 feet without application.

Applications to amend a permit after the five year construction period will be assigned a new priority date. Applications to change water sources, to add lands or increase original diversion rates, if approved will usually receive the date of the new application as a priority date regardless of the five year construction period.

WNR-809-5/83



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181

January 4, 1996

Permit No. 2298-2

Connie Andersen, Finance Officer
City of Edgemont
P.O. Box A
Edgemont, SD 57735

Dear Ms. Andersen:

The inspection of your water use system and the inspection of the extent of application of water to beneficial use, as developed under Water Permit Nos. 1853-2 and 2298-2, has been completed. Your final water right document, the Water License, can now be issued. Upon licensing, the applicable portions of Water Permit No. 1853-2 will be incorporated into 2298-2.

Statutes require that we charge a \$50.00 fee for the inspection and issuance of the Water License. Upon receipt of the \$50.00 fee from you, we will begin processing your Water License.

**Please remit fee to:
Department of Environment & Natural Resources
Water Rights Program
523 E. Capitol
Pierre, SD 57501-3181**

South Dakota Water Law 46-5-30.1 requires that a permit holder may not divert water until the \$50.00 license fee has been paid. Please contact us if you have any questions.

Sincerely,

Cheryl F. Frost
Secretary
Water Rights Program
(605) 773-3352

NOTE: On check or money order, please specify your permit number. This will insure proper handling of the fee.



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181

JUL 2 1996

2298-2

Connie Andersen, Finance Officer
City of Edgemont
P.O. Box A
Edgemont, SD 57735

Dear Ms. Andersen:

Enclosed is Water License No. 2298-2 and Receipt No. 414759 for \$50.00 which was assessed for an investigation and issuance of the license. Water License No. 2298-2 is the final document which completes the process of obtaining a water right.

As long as you use the water beneficially, as stated in the Water License, State Water Laws provide that you have a continuing right to use the water.

Very truly yours,

JOHN HATCH, Chief Engineer
Water Rights Program
(605) 773-3352

ks
enclosures

NOTE: The applicable portions of Water Permit No. 1853-2 have been incorporated into Water License No. 2298-2.

1853-2

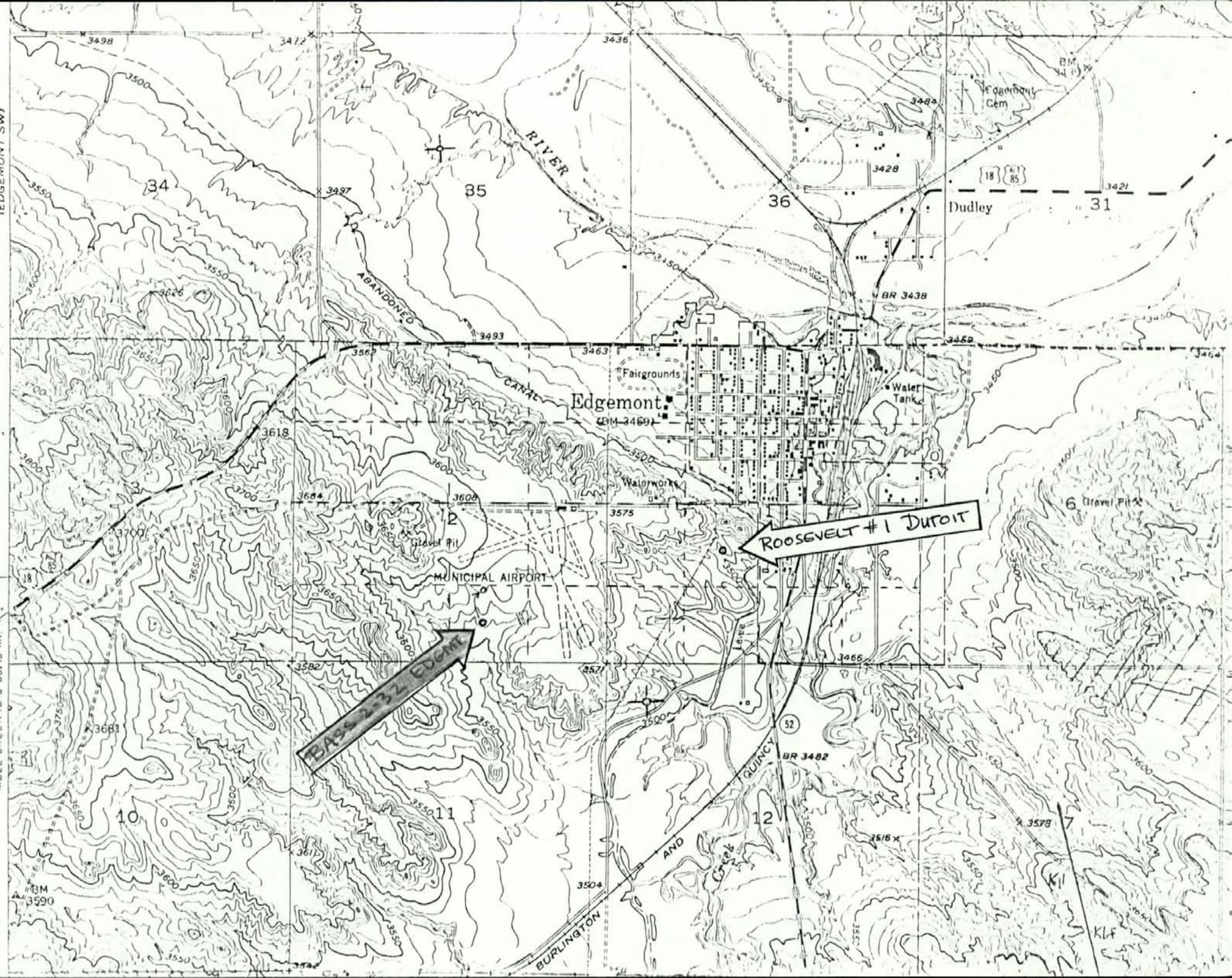
(EDGEMONT SW)

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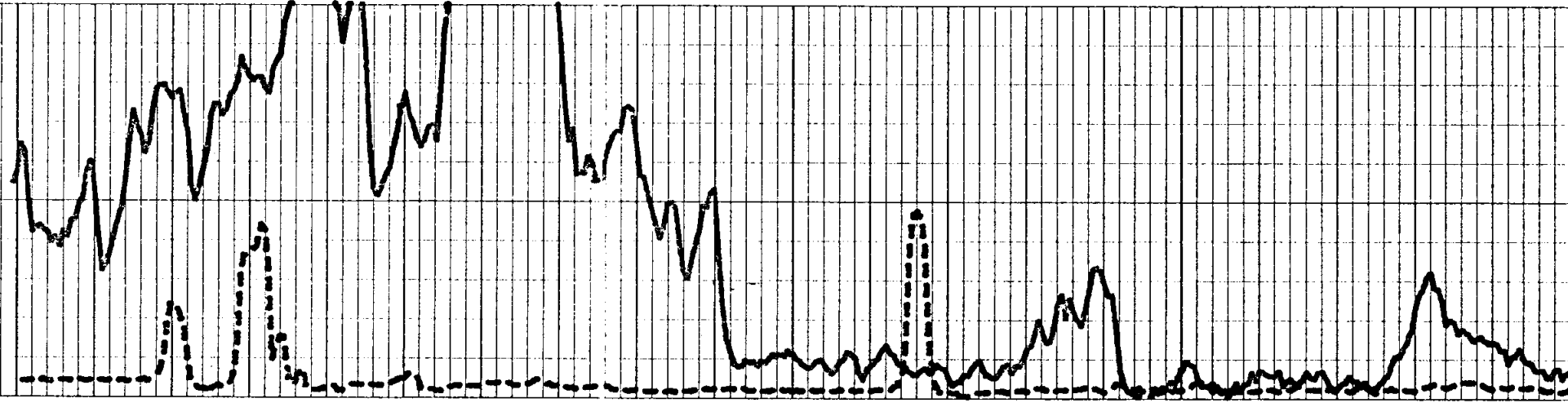
MULE CREEK (U.S. 85) 13 MI.

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HOLE SIZE - INCHES

6 16



CORRECTION

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+.25

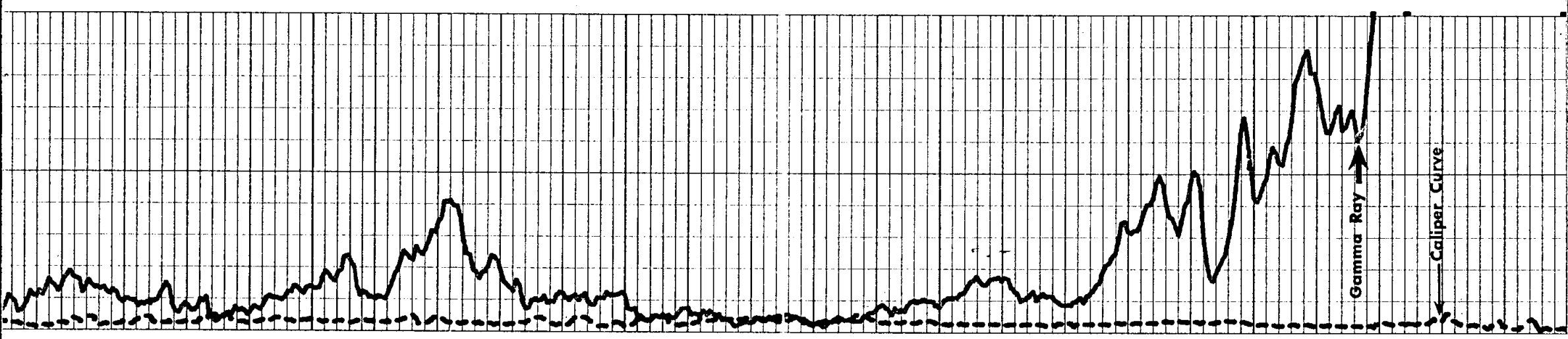
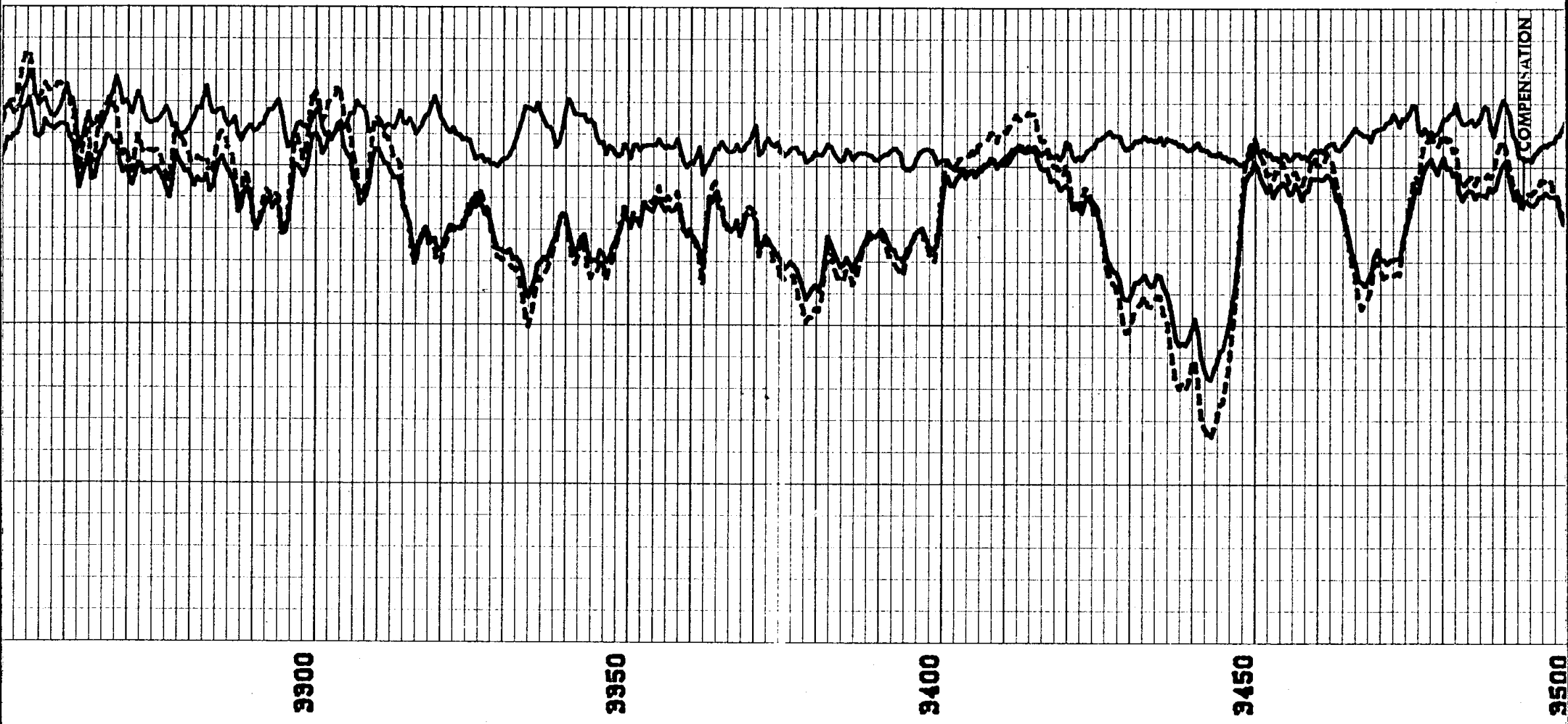
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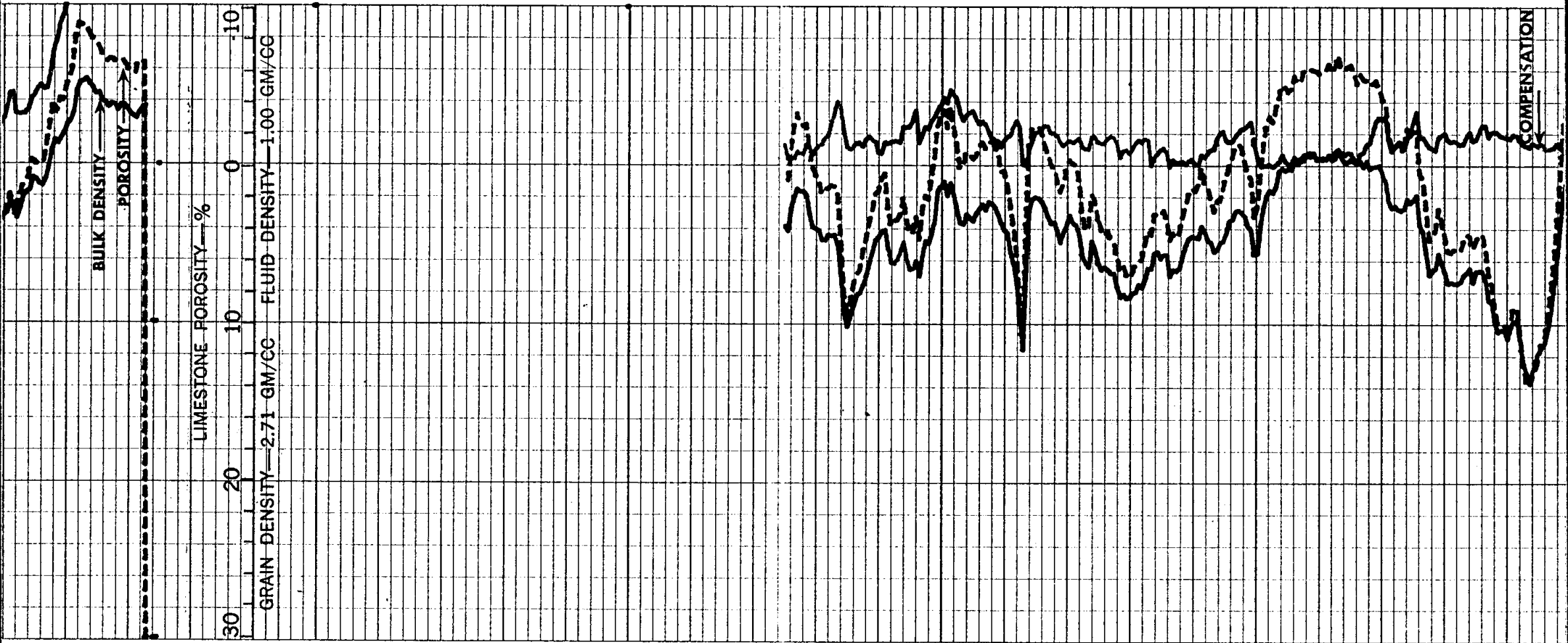
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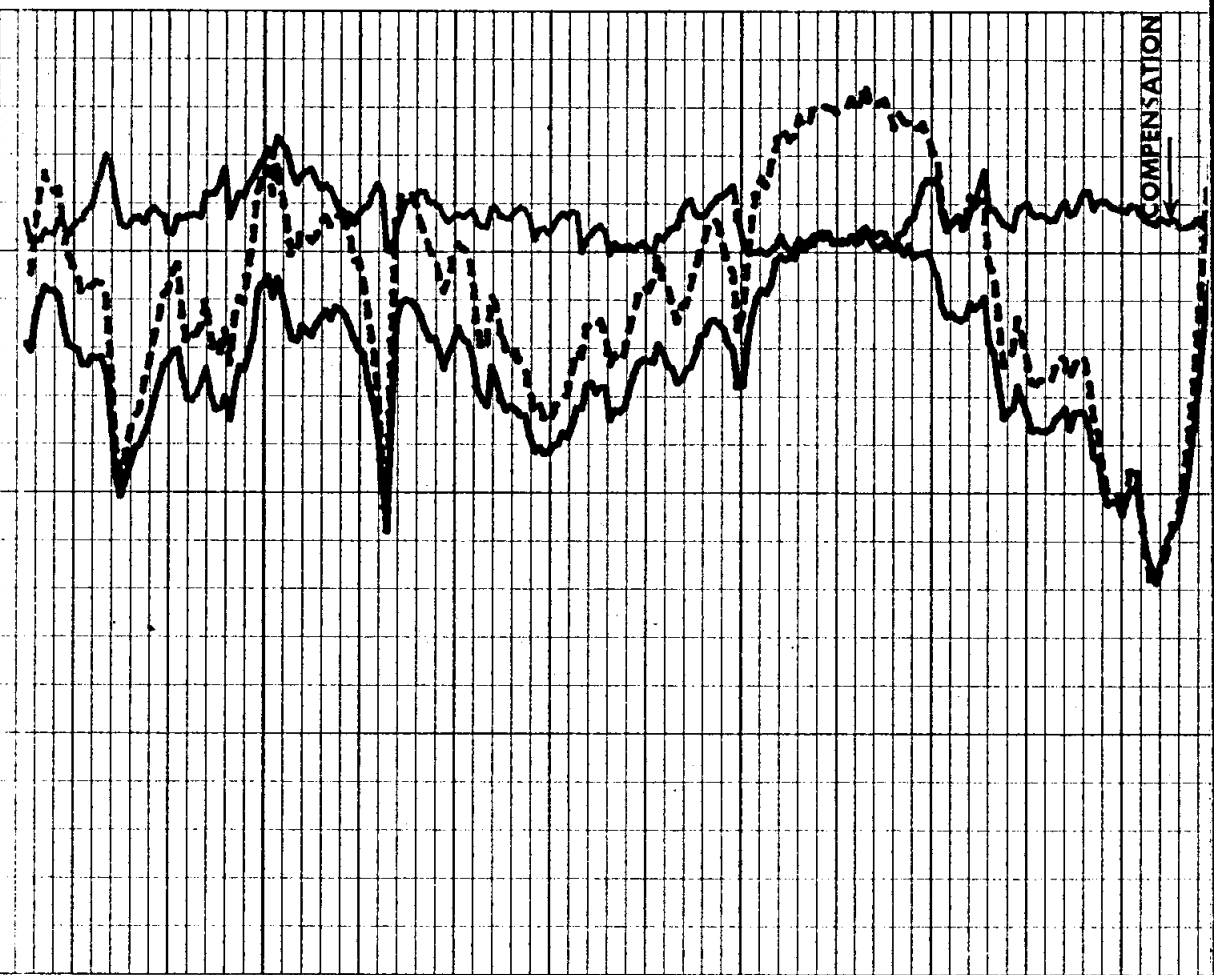


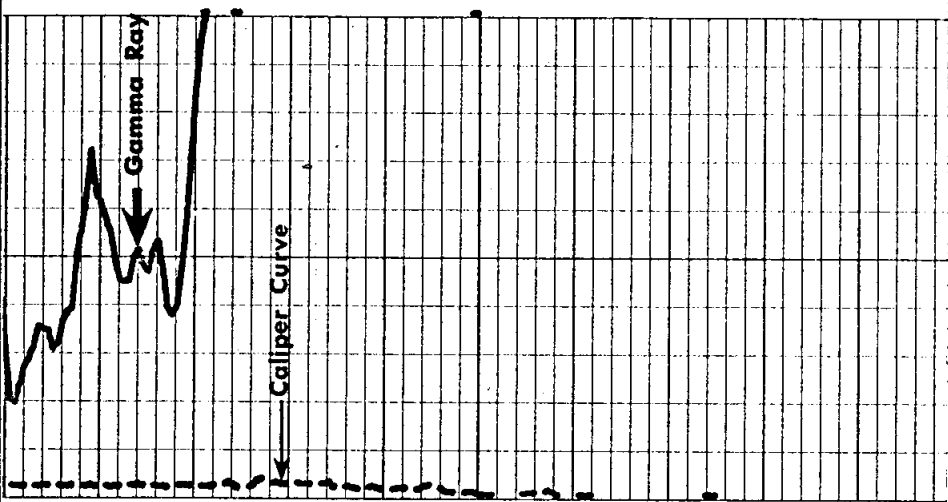


9950

9400

9450





9500

