April 24, 2002

NMOCD Environmental Bureau
ATTN: Wayne Price
P.O. Box 6429
1220 S. Saint Francis Drive
Santa Fe, NM 87504

RE: H.R.C. Brine Application BW-030
Supplemental Information

Mr. Price:

Within is the additional information as requested in your letter dated 4/20/2002. Mr. Schubert is sending a bond covering the new Hobbs State #10. The bond which is in place, will cover the re-plugging of Hobbs St. #5. After visiting with OCD, Hobbs, a plugging procedure is being submitted to re-enter and plug #5 after drilling the Hobbs St. #10, so we can utilize the same workover rig. After the Hobbs State #5 is plugged, we will request release of bond. Within is C-103 submitted to Hobbs OCD and additional information.

If you have any questions, please call.

Sincerely,

Eddie W. Seay

Eddie W. Seay, Agent
601 W. Illinois
Hobbs, NM 88242
(505)392-2236

BW-030

1) Re-enter and re-plug Hobbs State #5.
   I visited with the Hobbs district Geologist and a plugging procedure was recommended:
   a) Rig up, drill out top plug.
   b) Run in with tubing and spot a 25 sx plug at top of salt approximately 1600'.
   c) Pull tubing to 415', spot 100' plug fifty feet in and out of a surface casing show, and tag.
   d) Spot 10 sx surface plug.
   e) Hole will be loaded with salt gel.
   f) Erect marker.
   (Find copy of C-103.)

2) Mr. Schubert is sending new bond on Hobbs State #10. After plugging #5, we will request release of old bond.

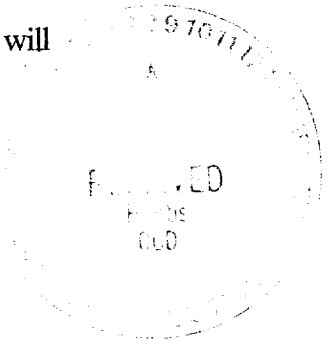
3) The maximum injection pressure will be 250#.
   The maximum test pressure will be 500# on a recorder for 8 hrs.
   Fresh water is 8.33# per gal. and .433# per ft. of depth.
   The production casing is to be set at 1700'.

   Hydrostatic pressure =.433 X depth 1700' = 736 lbs.
   Pressure gradient = surface pressure + hydrostatic pressure divided by the depth.
   Pressure gradient:

$$\frac{500\# + 736\#}{1700} = .727 \text{ psi/ft.}$$

   With the fracture pressure of the salt section being from 1500' to 1800' and our operating pressure plus hydrostatic pressure not exceeding 1250#, this will be below what it takes to frac the formation. We will install murphy switches to control the pressure, and also testing cavity as OCD requires.

4) Air-break.
   H.R.C. has several precautions to keep from backflowing to the City water supply. First of all, the city has installed check valves at H.R.C. 's connection. The fresh water line will run to the fresh water tank at the facility first and go into the top of the tank. From the fresh water tank at the facility, the water line will go to the brine well storage tank. This tank will store fresh water to be injected into the brine well. The fresh water will go into the top of the tank, below the top of the tank will be an overflow or break in case of malfunction and salt water backflows, it will go out overflow, not into the fresh water line, plus all lines will have check valves. (See drawing)



Nomenclature:

P_F = Bottom-hole fracturing pressure, psi (kPa)

P_{FG} = Bottom-hole fracturing pressure gradient, psi/ft (kPa/m)

P_W = Total surface pressure, psi (kPa)

P_h = Total hydrostatic pressure, psi (kPa)

P_{pf} = Perforation friction pressure, psi (kPa)

P_{tf} = Total tubular friction pressure, psi (kPa)

Q = Injection rate, bbl/min (m^3/min)

HHP = Hydraulic horsepower *

kw = Kilowatts

P_i = Instantaneous shutdown pressure, psi (kPa)

D = Depth of producing interval, feet (m)

Basic Equations

(1) Bottom-hole Fracturing Pressure Gradient:
$$P_{FG} = \frac{P_W + P_h - P_{tf} - P_{pf}}{D}$$

(2) Bottom-hole Fracturing Pressure:
$$P_F = P_W + P_h - P_{tf} - P_{pf}$$

(3) Instantaneous Shutdown Pressure:
$$P_i = P_F - P_h = P_{FG}\,D - P_h$$

(4) Total Surface Pressure:
$$P_W = P_F + P_{tf} + P_{pf} - P_h$$

(5) Hydraulic Horsepower:
$$HHP = 0.0245\,P_W\,Q$$

HYDROSTATIC PRESSURE AND FLUID WEIGHT CONVERSION TABLES

To find the Hydrostatic pressure of a column of fluid, multiply the appropriate value in Lbs./Sq. In. per foot of depth times the depth in feet.

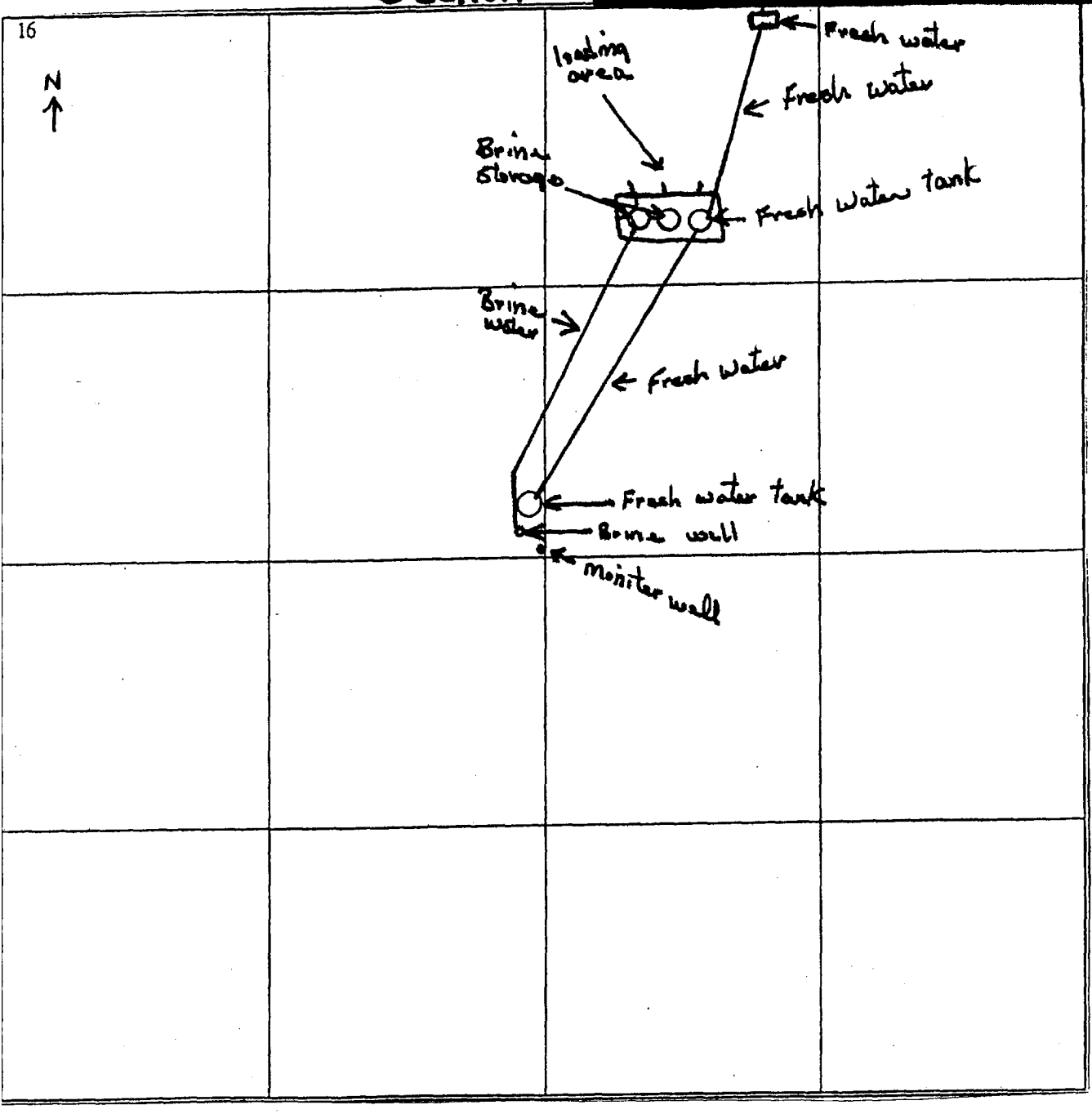
Example: Find the Hydrostatic Pressure at a depth of 13.760 feet in a hole filled with mud weighing 12.3 Lbs./Gal. (92.01 Lbs./Cu. Ft.) The value 0.6390 is found opposite 12.3 Lbs./Gal. in the table. Then 0.6390 × 13760 = 8793 Lbs. per Sq. In. hydrostatic pressure.

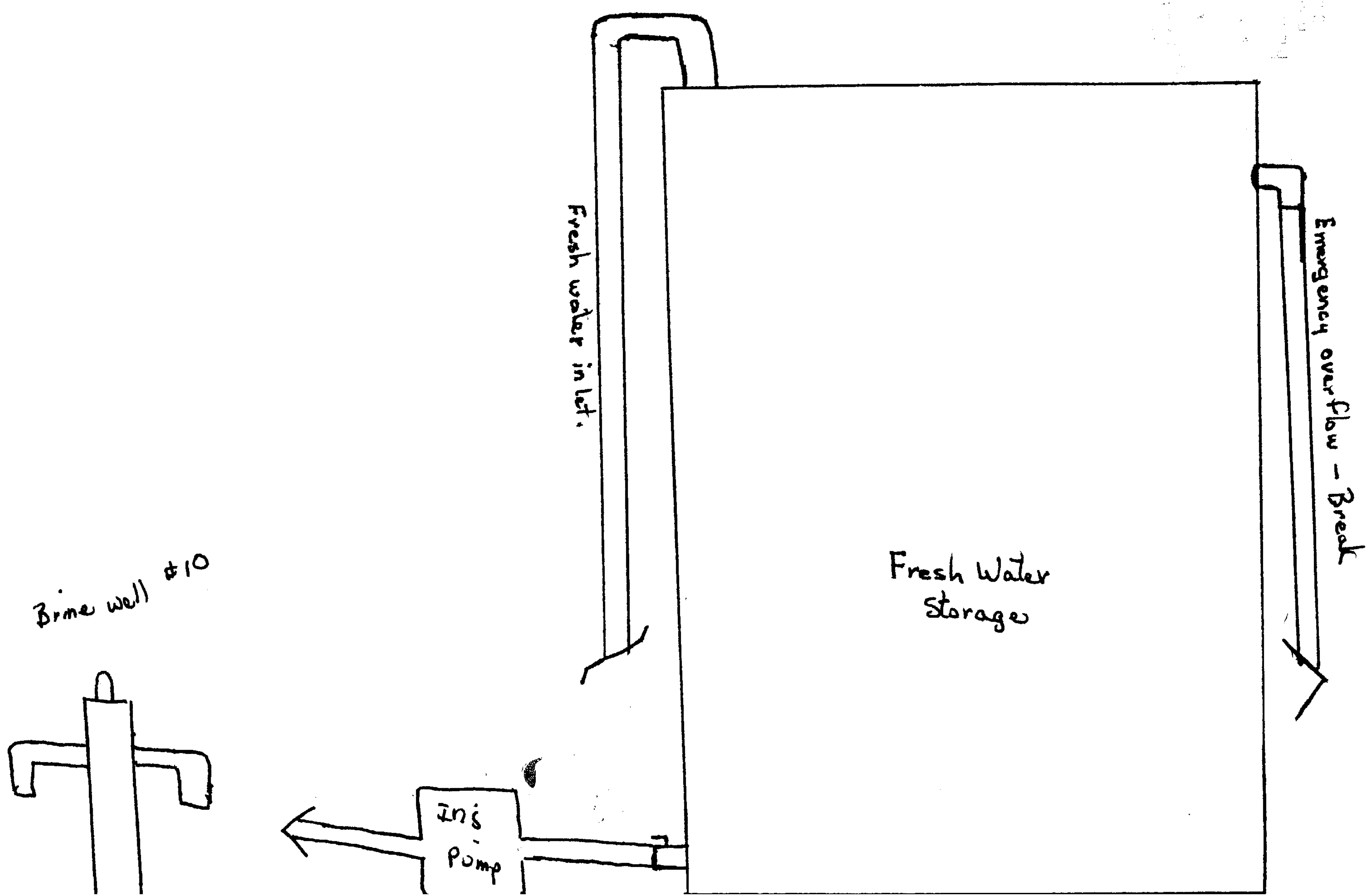
Lbs./Gal.	Lbs./Cu. Ft.	Sp. Gr.	Lbs./Sq. In. Per Ft. of Depth
7.0	52.36	0.84	0.3636
7.1	53.11	0.85	0.3688
7.2	53.86	0.86	0.3740
7.3	54.61	0.87	0.3792
7.4	55.36	0.89	0.3844
7.5	56.10	0.90	0.3896
7.6	56.85	0.91	0.3948
7.7	57.60	0.92	0.4000
7.8	58.35	0.93	0.4052
7.9	59.10	0.95	0.4104
8.0	59.84	0.96	0.4156
8.1	60.59	0.97	0.4208
8.2	61.34	0.98	0.4260
8.3	62.09	0.99	0.4312
8.33*	62.31	1.00	0.433
8.4	62.84	1.01	0.4364
8.5	63.58	1.02	0.4416
8.6	64.33	1.03	0.4468
8.7	65.08	1.04	0.4519
8.8	65.83	1.05	0.4571
8.9	66.58	1.07	0.4623
9.0	67.32	1.08	0.4675
9.1	68.07	1.09	0.4727
9.2	68.82	1.10	0.4779
9.3	69.57	1.11	0.4831
9.4	70.32	1.13	0.4883
9.5	71.06	1.14	0.4935
9.6	71.81	1.15	0.4987
9.7	72.56	1.16	0.5039
9.8	73.31	1.17	0.5091
9.9	74.06	1.19	0.5143
10.0	74.80	1.20	0.5195
10.1	75.55	1.21	0.5247
10.2	76.30	1.22	0.5299
10.3	77.05	1.23	0.5351
10.4	77.80	1.25	0.5403

* Density of water at 20°C. or 68°F.

Section 29

City of Hobbs water line





Fresh water inlet.
Emergency overflow - Break
Fresh Water Storage
Brine well #10
Inj. Pump