Form 3160-5
(June 1990)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals

SUBMIT IN TRIPLICATE

1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator
Hart Oil & Gas Inc

3. Address and Telephone No.
Drawer 1480 Cortez Co 81321, 970-565-8245

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
1980' FWL & 1980' FSL
Sec 1: T31 N R17W

5. Lease Designation and Serial No.
14-20-603-2033

6. If Indian, Allottee or Tribe Name
NAVAJO

7. If Unit or CA, Agreement Designation
NAVAJO "G"

8. Well Name and No.
209

9. API Well No.
30045110470051

10. Field and Pool, or Exploratory Area
Many Rocks Gallup

11. County or Parish, State
San Juan NM.

12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION	
☒ Notice of Intent	☐ Abandonment	☐ Change of Plans
☐ Subsequent Report	☐ Recompletion	☐ New Construction
☐ Final Abandonment Notice	☐ Plugging Back	☐ Non-Routine Fracturing
	☐ Casing Repair	☐ Water Shut-Off
	☐ Altering Casing	☒ Conversion to Injection
	☐ Other _____	☐ Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Upon approval from the E.P.A; plan to run 2 3/8" EUE upset tubing with packard. Set packard at 1160' with a 30' tail joint below packard. (perforations 1200'—1217') Pump annulas full of packard fluid and M.I.T the back side to 1000 PSI.

RECEIVED
JAN 0 9 1998
OIL CON. DIV.
DIST. 3

14. I hereby certify that the foregoing is true and correct
Signed James P Moorley Title Operator Date 12/26/97

(This space for Federal or State office use)

Approved by _____ Title _____ Date _____
Conditions of approval, if any:

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*See Instruction on Reverse Side

Form Approved. OMB No. 2040-0042. Approval Expires 6-30-98

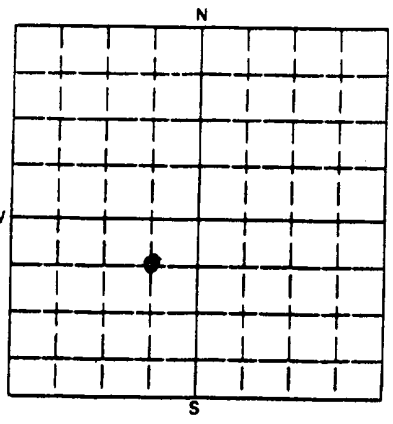
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

EPA PLUGGING AND ABANDONMENT PLAN

NAME AND ADDRESS OF FACILITY
Hart Oil & Gas Inc.
Drawer 1480
Cortez, Co 81321

NAME AND ADDRESS OF OWNER/OPERATOR
Hart Oil & Gas Inc
Drawer 1480
Cortez, Co. 81321

LOCATE WELL AND OUTLINE UNIT ON SECTION PLAT — 640 ACRES



STATE: NM
COUNTY: San Juan
PERMIT NUMBER: R-1699 injection R-2210

SURFACE LOCATION DESCRIPTION
___ 1/4 of ___ 1/4 of NE 1/4 of SW 1/4 of Section 1 Township 31N Range 17W

LOCATE WELL IN TWO DIRECTIONS FROM NEAREST LINES OF QUARTER SECTION AND DRILLING UNIT
Surface Location 1980 ft. from (N/S) S Line of quarter section
and 1980 ft. from (E/W) W Line of quarter section

TYPE OF AUTHORIZATION
- [x] Individual Permit
- [ ] Area Permit
- [ ] Rule

Number of Wells 1

WELL ACTIVITY
- [ ] CLASS I
- [x] CLASS II
  - [ ] Brine Disposal
  - [x] Enhanced Recovery
  - [ ] Hydrocarbon Storage
- [ ] CLASS III

Lease Name Many Rocks
Well Number G-209

CASING AND TUBING RECORD AFTER PLUGGING

SIZE	WT(LB/FT)	TO BE PUT IN WELL (FT)	TO BE LEFT IN WELL (FT)	HOLE SIZE
8 5/8	24		64'	12 1/4"
4 1/2	9.5		1260'	6 3/4"

METHOD OF EMPLACEMENT OF CEMENT PLUGS
- [x] The Balance Method
- [ ] The Dump Bailer Method
- [ ] The Two-Plug Method
- [ ] Other

CEMENTING TO PLUG AND ABANDON DATA:	PLUG #1	PLUG #2	PLUG #3	PLUG #4	PLUG #5	PLUG #6	PLUG #7
Size of Hole or Pipe in which Plug Will Be Placed (inches)	4 1/2"	8 5/8					
Depth to Bottom of Tubing or Drill Pipe (ft.)	1255	100					
Sacks of Cement To Be Used (each plug)	39	38					
Slurry Volume To Be Pumped (cu. ft.)	46	44					
Calculated Top of Plug (ft.)	750	surface					
Measured Top of Plug (if tagged ft.)	750	surface					
Slurry Wt. (Lb./Gal.)	15	15					
Type Cement or Other Material (Class III)	'A' Neat	'A' Neat					

LIST ALL OPEN HOLE AND/OR PERFORATED INTERVALS AND INTERVALS WHERE CASING WILL BE VARIED (If any)

From	To	From	To
three holes in 4 1/2	@ 100'	to surface	to cement between 4 1/2 & 8 5/8

Estimated Cost to Plug Wells

CERTIFICATION

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

NAME AND OFFICIAL TITLE (Please type or print)	SIGNATURE	DATE SIGNED
James Woosley (operator)	James P. Woosley	1/5/98

EPA Form 7520-14

Form Approved. OMB No. 2040-0042. Expires 6-30-98

United States Environmental Protection Agency
Washington, DC 20460

Completion Form For Injection Wells

Administrative Information

1. Permittee: Hart Oil & Gas Inc

Address *(Permanent Mailing Address) (Street, City, and ZIP Code)*
Drawer 1480
Cortez Co 81321

2. Operator
Hart Oil & Gas Inc

Address *(Street, City, State and ZIP Code)*
Drawer 1480
Cortez Co 81321

3. Facility Name: Many Rocks Gallup

Telephone Number: 970-565-8245

Address *(Street, City, State and ZIP Code)*
Drawer 1480
Cortez, Co. 81321

4. Surface Location Description of Injection Well (s) 1980'FSL & 1980'FWL Sec 1 T31N R17W

State: NM.

County: San Juan

Surface Location Description

___1/4 of ___1/4 of NE 1/4 of SW 1/4 of Section 1 Township 31N Range 17W

Locate well in two directions from nearest lines of quarter section and drilling unit

Surface Location 1980 ft. from (N/S) S Line of quarter section
and 1980 ft. from E/W W Line of Quarter section.

Well Activity

___Class I
X Class II
___Brine Disposal
X Enhances Recovery
___Hydrocarbon Storage
___Class III
___Other

Well Status

___Operating
___Modification/Conversion
X Proposed conversion

Type of Permit

/ Individual
40 Area : Number of Wells 1

Lease Number 14-20-603-2033 Well Number G-209

Submit with this Completion Form the attachments listed in Attachments for Completion Form.

Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32).

Name and Official Title *(Please type or print)*	Signature	Date Signed
James Woosley Pres.	James T Woosley	1/5/98

EPA Form 7520-9 (Rev. 9-91)

Form Approved. OMB No. 2040-0042. Expires 6-30-98

EPA

United States Environmental Protection Agency

Underground Injection Control Permit Application

(Collected under the authority of the Safe Drinking Water Act, Sections 1421, 1422, 40 CFR 144)

I. A ID Number

		T/A	C
U			

Read Attached Instructions Before Starting

For Official Use Only

Application approved mo day year	Date received mo day year	Permit Number	Well ID	FINDS Number

II. Owner Name and Address

Owner Name: Hart Oil & Gas Inc

Street Address: P.O. Drawer 1480 — Phone Number: 565-8245

City: Cortez — State: Co. — ZIP CODE: 81321

III. Operator Name and Address

Operator Name: Hart Oil & Gas Inc.

Street Address: PO Drawer 1480 — Phone Number: 565-8245

City: Cortez — State: Co. — ZIP CODE: 81321

IV. Commercial Facility

- [ ] Yes
- [x] No

V. Ownership

- [ ] Private
- [x] Federal
- [ ] Other

VI. Legal Contact

- [ ] Owner
- [x] Operator

VII. SIC Codes

R

VIII. Well Status *(Mark "x")*

- [x] A. Operating — Date Started: mo 10, day 1, year 60
- [x] B. Modification/Conversion
- [ ] C. Proposed

IX. Type of Permit Requested *(Mark "x" and specify if required)*

- [x] A. Individual
- [ ] B. Area

Number of Existing Wells	Number of Proposed Wells	Name(s) of field(s) or project(s)
	1	Many Rocks Gallup

X. Class and Type of Well *(see reverse)*

A. Classes(es) (enter codes(s))	B. Type(s) (enter codes(s))	C. If class is "other" or type is code 'x,' explain	D. Number of wells per type (if area permit)
II	R		

XI. Location of Well(s) or Approximate Center of Field or Project

Latitude Deg	Min	Sec	Longitude Deg	Min	Sec	Township and Range Sec	Twp	Range	1/4 Sec	Feet From	Line	Feet From	Line
						1	31 N	17W	SW	1980	S	1980	W

XII. Indian Lands *(Mark 'x')*

- [x] Yes
- [ ] No

XIII. Attachments

(Complete the following questions on a separate sheet(s) and number accordingly; see instructions)
For Classes I, II, III, (and other classes) complete and submit on a separate sheet(s) Attachments A--U (pp 2-6) as appropriate. Attach maps where required. List attachments by letter which are applicable and are included with your application.

XIV. Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

A. Name and Title *(Type or Print)*: James P. Woosley operator (Pres.)

B. Phone No. *(Area Code and No.)*: 970-565-8245

C. Signature: James P. Woosley

D. Date Signed: 1/5/98

EPA Form 7520-6 (Rev. 8-91)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

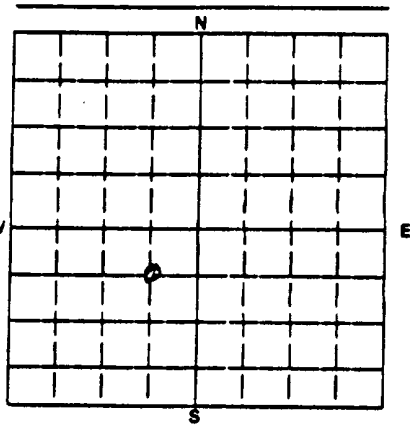
EPA COMPLETION REPORT FOR BRINE DISPOSAL, HYDROCARBON STORAGE, OR ENHANCED RECOVERY WELL

Form Approved
OMB No. 2040-0042
Approval Expires 6-30-98

NAME AND ADDRESS OF EXISTING PERMITTEE
Hart Oil & Gas Inc
Drawer 1480
Cortez Co 81321

NAME AND ADDRESS OF SURFACE OWNER
The Navajo Nation
Box 410
Montezuma Creek UT 84534

LOCATE WELL AND OUTLINE UNIT ON SECTION PLAT — 640 ACRES



STATE	COUNTY	PERMIT NUMBER
NM	San Juan	injection R-1699 R-2210

SURFACE LOCATION DESCRIPTION
___ 1/4 of ___ 1/4 of NE 1/4 of SW 1/4 of Section 1 Township 31 N Range 17 W

LOCATE WELL IN TWO DIRECTIONS FROM NEAREST LINES OF QUARTER SECTION AND DRILLING UNIT
Surface Location 1980 ft. from (N/S) S Line of quarter section
and 1980 ft. from (E/W) W Line of quarter section

WELL ACTIVITY
- ☐ Brine Disposal
- ☒ Enhanced Recovery
- ☐ Hydrocarbon Storage

TYPE OF PERMIT
- ☒ Individual
- ☐ Area
- Number of Wells 1

Estimated Fracture Pressure of Injection Zone 3100 PSI

Anticipated Daily Injection Volume (Bbls)		Injection Interval	
Average	Maximum	Feet	to Feet
120 bbls	10 bbls.	1200	1217
Anticipated Daily Injection Pressure (PSI)		**Depth to Bottom of Lowermost Freshwater Formation (Feet)**	
Average	Maximum		
860	950	NONE	

Type of Injection Fluid *(Check the appropriate block(s))*
- ☒ Salt Water
- ☐ Brackish Water
- ☐ Fresh Water
- ☐ Liquid Hydrocarbon
- ☐ Other

Lease Name: Many Rocks Gallup
Well Number: G-209
Name of Injection Zone: Lower Gallup SS
Permeability of Injection Zone: 227 md. average
Porosity of Injection Zone: 18%

Date Drilling Began: May 5, 1963
Date Well Completed: May 14, 1963
Date Drilling Completed: May 8, 1963

CASING AND TUBING

OD Size	Wt/Ft — Grade — New or Used	Depth
8 5/8"	24 J-55 New	64'
4 1/2"	9.5 J-55 New	1260'

CEMENT / HOLE

Sacks	Class	Hole Depth	Bit Diameter
52	"A"	64'-surface	12 1/4
80	"A"	1260-770	6 1/4

INJECTION ZONE STIMULATION

Interval Treated	Materials and Amount Used
1200-1217'	7000 g/s. Crude, 17,500 lbs 20-40 mesh sand

WIRE LINE LOGS, LIST EACH TYPE

Log Types	Logged Intervals
Density	1260'-90'
Temperature	1260'-370'
Correlation	1234'-800'

Complete Attachments A — E listed on the reverse.

CERTIFICATION

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32).

NAME AND OFFICIAL TITLE *(Please type or print)*		DATE SIGNED
James Woosley Operator	James P Woosley	1/5/98

EPA Form 7520-10

Exhibit "A"

Hart Oil & Gas Inc.

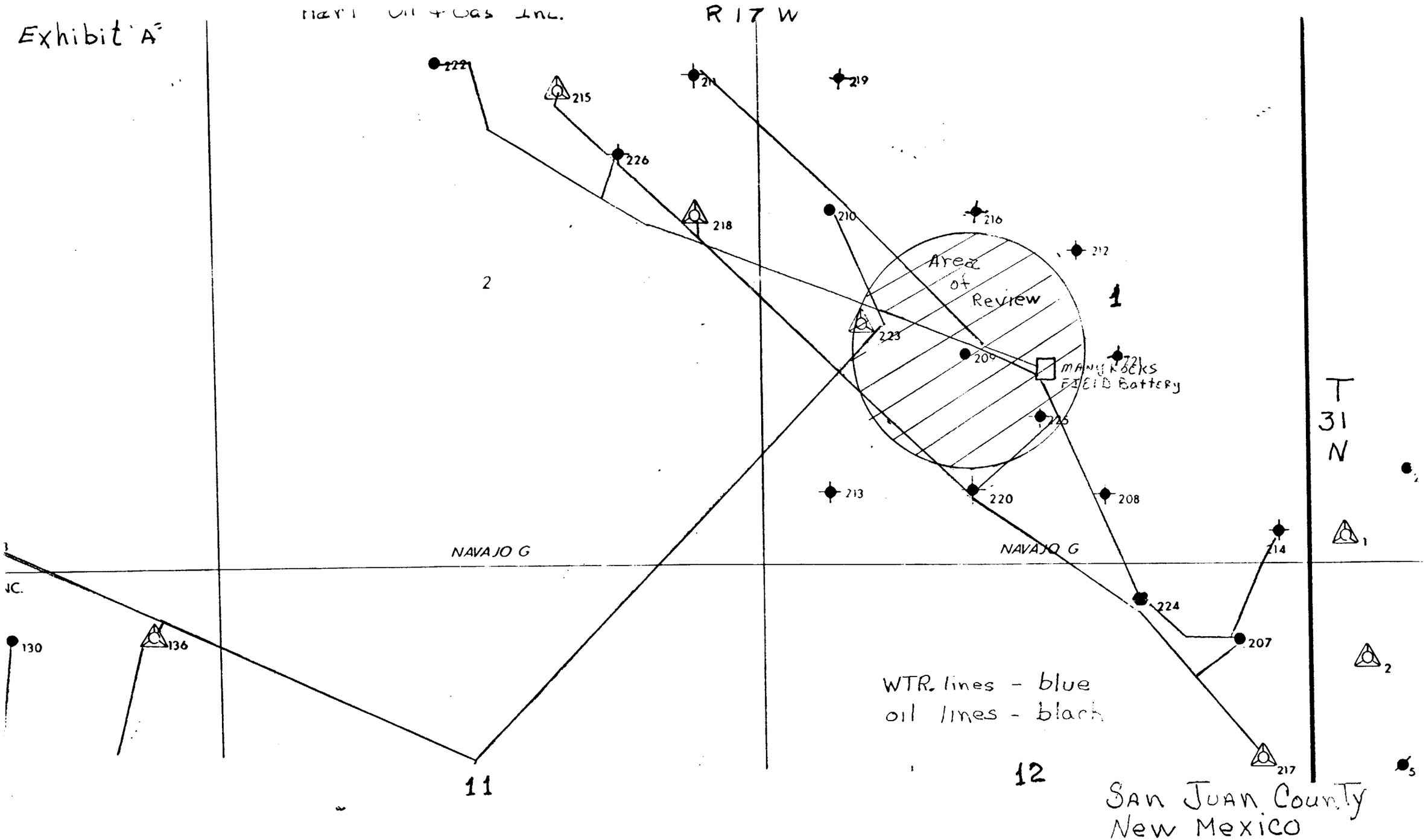


Exhibit "B"

UNICHEM

A Division of BJ Services Company

Lab Test No : 17622

Hart Oil & Gas

Sample Date : 11/18/97
Lab Date In : 12/1/97
Lab Date Out : 12/4/97

Water Analysis

Listed below please find water analysis report from : Navajo F-1

Specific Gravity :	1.004
Total Dissolved Solids :	5478
pH :	7.80
Conductivity (µmhos):	
Ionic Strength :	0.113

Cations:		mg/l
Calcium	(Ca++):	58
Magnesium	(Mg++):	23
Sodium	(Na+):	1682
Iron	(Fe++):	0.00
Dissolved Iron	(Fe++):	
Barium	(Ba++):	0.00
Strontium	(Sr):	
Manganese	(Mn++):	0.19
Resistivity :		
Anions:		
Bicarbonate	(HCO3-):	390
Carbonate	(CO3--):	
Hydroxide	(OH-):	0
Sulfate	(SO4--):	3000
Chloride	(Cl-):	324

Gases:		ppm		
Carbon Dioxide	(CO2):	26.40	Oxygen	(O2):
Hydrogen Sulfide	(H2S):	5.10		

Scale Index (positive value indicates scale tendency) a blank indicates some tests were not run

Temperature		CaCO3 SI	CaSO4 SI
86F	30.0C	0.33	-15.11
104F	40.0C	0.66	-15.11
122F	50.0C	0.85	-15.11
140F	60.0C	1.02	-14.74
168F	70.0C	1.27	-13.88
176F	80.0C	1.51	-12.97

Comments :

If you have any questions or require further information, please contact us.
Sincerely,

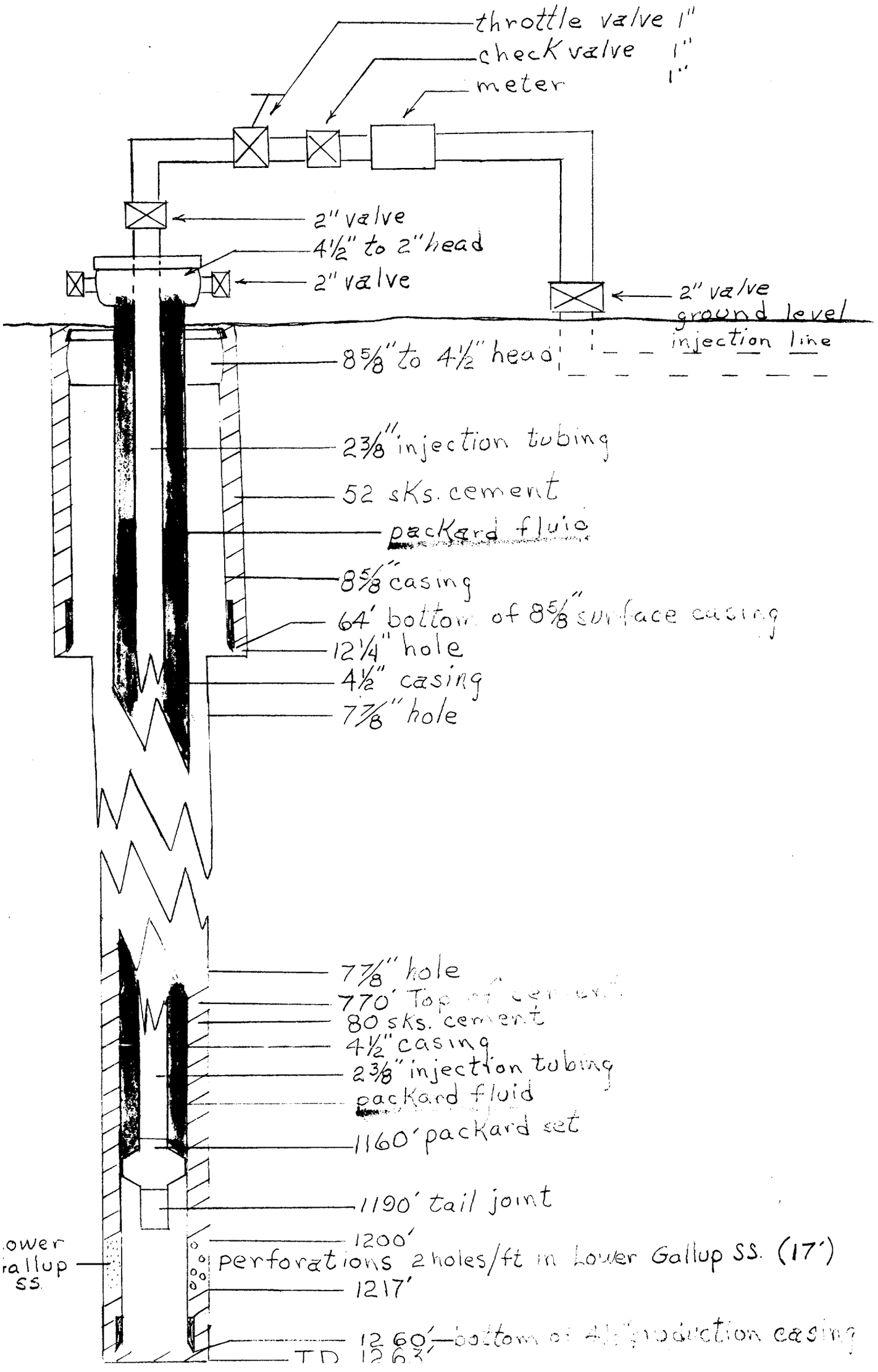
cc: Clyde Willis
Mike Grover

Laboratory Technician

P.O. Box 61427, Midland, TX 79711 • 4312 S. County Rd. 1298, Midland, TX 79765
Office: (915) 563-0241 • Fax: (915) 563-0243

Surface & Subsurface

Exhibit "C"



A. See area of review map (exhibit A) 40 acre spacing

E. There are no underground sources of drinking water in this area. In fact, no water at all. The first aquifer is the Lower Gallup SS enclosed top and bottom by shale. The Gallup SS is approximately 1200' deep and is the zone from which the hydrocarbons are being produced.
Approximate depths:
surface - 1200' Mancos shale
1200' - 1217' Lower Gallup SS
1217' - 2130' shale

G. This well (G-209) is in the Many Rocks trend of the Lower Gallup SS. The oil reservoir trends northwest and southeast and is a stratigraphic trap enclosed by shales. In some areas along this trend there are two sand sections that have developed known by either the upper and lower Gallup SS, or by the upper and lower Tocito SS, which are one and the same. However, in the area-of-review including all of sections 1, 2, and 12, which covers this field, there exist only the lower Gallup SS. The average porosity is 15% and the average permeability is 80 md. The average net pay zone is 17.8 ft. The reservoir temperature was 87 degrees (F) when the field was new. The field originally had a gas solution drive, which declined very rapidly, thereby forcing a secondary recovery method to be put into effect and in this area the method was a water flood.

1. Injection zone is the Lower Gallup which is a sandstone with an average porosity of 15% and average permeability of 80 md. The average injection rate into this sand should be 860 to 920 PSI.
2. The confining zone is shale above and below.
3. Lower Gallup SS member in the Cretaceous period.
4. Depth 1700' - 1710' below ground level.
5. Fracture pressure - 2800 to 3000 PSI.

H. 1.) Average daily rate - 90 - 110 bbls . per day
maximum rate - 120 - 130 bbls. per day
2.) Average PSI - 860
maximum PSI - 950
3.) Packard fluid
5.) Source water will be from a water source well located 990' FNL and 990' FWL, Sec. 10: 31N, 17W San Juan County, NM, producing water from the Dakota and Morrison SS at approximately 2300' deep. This well is 2 1/8 miles west of the proposed injection well. Enclosed is a water analysis taken from this water source well (exhibit B.)

M. Enclosed (exhibit C)

Q. See enclosed plugging and abandonment plan on E.P.A. form.

R. Consent Agreement entered into October 31, 1995 between Hart Oil and Gas, Inc. and Region IX E.P.A.
RE: Escrow account #043201 located at the First National Bank of Farmington, NM, P.O. Box 4540, Farmington, NM 87499-4540

U. Producing oil from a late secondary recovery field