STATE OF MISSOURI
Mel Carnahan, Governor • David A. Shorr, Director
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF GEOLOGY AND LAND SURVEY
P.O. Box 250 111 Fairgrounds Rd. Rolla, MO 65401-0250
FAX (314)368-2111

NOTICE TO CANCEL PERMIT APPLICATION

TO THE MISSOURI OIL AND GAS COUNCIL:

Walton 11-W (lease name and well number) has not been drilled and requires no remedial or plugging actions as required by Missouri Oil and Gas Council Rules and Regulations.

Permit No. 20454

County Cass

CERTIFICATE: I, the undersigned, state that I am the (your title) per letter 3/11/93 of the _____ (company) and that I am authorized to make this report; and that this report was prepared under my supervision and direction and the facts stated herein are true, correct, and complete to the best of my knowledge.

Signature: HWB Date: 11/9/93

OGC Misc. Form 2

RECYCLED PAPER

Missouri Oil and Gas Council — **Form OGC-3I**

INJECTION WELL PERMIT APPLICATION: to drill, deepen, plug back, or convert an existing well

APPLICATION TO DRILL ☒ **DEEPEN** ☐ **PLUG BACK** ☐ **CONVERSION** ☐

NAME OF COMPANY OR OPERATOR Town Oil Co. DATE 3-2-84

Rt. 4 (Address) — Paola (City) — Kansas (State)

DESCRIPTION OF WELL AND LEASE

Name of lease	Well number	Elevation (ground)
Walton	11-W	1080 TM

WELL LOCATION (give footage from section lines)
1100 ft. from (N) (~~S~~) sec line 1682 ft. from (E) (~~W~~) sec line

WELL LOCATION Section 4 Township 46 Range 33 — COUNTY Cass

Nearest distance from proposed location to property or lease line 10 feet
Distance from proposed location to nearest drilling, completed or applied – for well on the same lease 205 feet

Proposed depth	Rotary or Cable tools	Drilling Contractor, name and address	Approx. date work will start
600	Rotary	Town Oil Co.	When approved

Number of acres in lease: approx 85
Number of wells on lease, including this well, completed in or drilling to this reservoir: _____
Number of abandoned wells on lease: _____

If lease purchased with one or more wells drilled, from whom purchased?
Name Harry Knoche
Address Belton, Mo.

No of Wells: producing _____ injection _____ inactive _____ abandoned _____

Status of Bond
Single Well ☐ Amt. _____ Blanket Bond ☒ Amt. $20,000 ☒ ON FILE ☐ ATTACHED

Outline Proposed Stimulation Program

Water injection and secondary recovery

Proposed casing program

amt.	size	wt/ft	cem.
600	2"	3.75	to surface

Approved casing – To be filled in by State Geologist

amt.	size	wt/ft	cem.
600'	2"	3.75	to surface

I, the undersigned, state that I am the Partner of the town Oil Co. (company), and that I am authorized by said company to make this report, and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

Signature Michael Town

Permit Number #20454
Approved Date 4/25/84
Approved by Wallace B. Howe RD

☒ SAMPLES REQUIRED ☐ SAMPLES NOT REQUIRED
WATER SAMPLES REQUIRED @ _____

RECEIVED
APR 09 1984
MO. OIL & GAS COUNCIL

Note: This Permit not transferable to any other person or to any other location

Remit two copies to: Missouri Oil and Gas Council
P.O. Box 250, Rolla, MO 65401
One will be returned for driller's signature

Approval of this permit by the Oil and Gas Council does not constitute endorsement of the geologic merits of the proposed well nor endorsement of the qualifications of the permittee.

3/12/82

I Lester Town of the Town Oil Co.

Company confirm that an approved drilling permit has been obtained by the owner of this well. Council approval of this permit will be shown on this form by presence of a permit number and signature of authorized Council representative.

Driller's signature Michael Town

Date 3-2-84

Proposed Operations Data

Proposed average daily injection, pressure 400 psig, rate 25 bpd/~~gpm~~, volume 300 bbl/~~gal~~

Approved average daily injection, (to be filled in by State Geologist). pressure 400 psig, rate 25 bpd/gpm, volume 300 bbl/gal

Proposed maximum daily injection, pressure ~~700~~ psig, rate 50 bpd/~~gpm~~, volume 1000 bbl/~~gal~~

Approved maximum daily injection, (to be filled in by State Geologist). pressure 600 psig, rate 50 bpd/gpm, volume 1000 bbl/gal

Estimated fracture pressure/gradient of injection zone breakdown 800 psi/foot

Describe the source of the injection fluid produced and fresh water

Submit an appropriate analysis of the injection fluid. (Submit on separate sheet).

See enclosed water analysis report

Describe the compatibility of the proposed injected fluid with that of the receiving formations, including total dissolved solids comparisons.

Same

Give an accurate description of the injection zone including lithologic descriptions, geologic name, thickness, depth, porosity, and permeablity.

See the enclosed driller's log, gamma ray and core analysis

Give an accurate description of the confining zones including lithologic description, geologic name, thickness, depth, porosity, and permeability.

See the enclosed driller's log, gamma ray and core analysis

Submit all available logging and testing data on the well.

Give a detailed description of any well needing corrective action which penetrates the injection zone in the area of review (½ mile radius around well). Include the reason for and proposed corrective action.

None

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MO. OIL & GAS COUNCIL

#20454

Missouri Oil and Gas Council

Form OGC 5

WELL COMPLETION OR RECOMPLETION REPORT AND WELL LOG

New Well [X] Workover [ ] Deepen [ ] Plug Back [ ] Injection [X] Same Reservoir [ ] Different Reservoir [ ] Oil [ ] Gas [ ] Dry [ ]

Owner: TOWN OIL COMPANY	Address: RR 4, PAOLA, KANSAS 66071
Lease Name: WALTON	Well Number: 11-W
Location: 100 FNL 1682 FEL	Sec., Twp., and Range or Block and Survey
County: CASS	Permit number (OGC 3 or OGC 3I): 20454

Date spudded	Date total depth reached	Date completed, ready to produce or inject	Elevation (DF, RKR, RT, or Gr.) feet	Elevation of casing hd. flange feet
MAY				

Total depth	P.B.T.D.
614	

Producing or injection interval(s) for this completion	Rotary tools used (interval) From 0 to TD Drilling Fluid used WATER	Cable tools used (interval) From ____ to ____

Was this well directionally drilled?	Was directional survey made?	Was copy of directional survey filed?	Date filed
NO			

Type of electrical or other logs run (list logs filed with the State Geologist)	Date filed

CASING RECORD

Casing (report all strings set in well -- conductor, surface, intermediate, producing, etc.)

Purpose	Size hole drilled	Size casing set	Weight (lb. ft.)	Depth set	Sacks cement	Amt. pulled
SURFACE		6 1/4"		20		
PRODUCTION		2"			CEMENTED TO SURFACE	

TUBING RECORD

Size in.	Depth set ft.	Packer set at ft.

LINER RECORD

Size in.	Top ft.	Bottom ft.	Sacks cement	Screen (ft.)

PERFORATION RECORD

Number per ft.	Size & type	Depth Interval

ACID, SHOT, FRACTURE, CEMENT SQUEEZE RECORD

Amount and kind of material used	Depth Interval

INITIAL PRODUCTION

Date of first production or injection	Producing method (indicate if flowing, gas lift, or pumping -- if pumping, show size and type of pump

Date of test	Hrs. tested	Choke size	Oil produced during test bbls.	Gas produced during test MCF	Water produced during test bbls.	Oil gravity API (Corr.)

Tubing pressure	Casing pressure	Cal'ted rate of Production per 24 hours	Oil bbls.	Gas MCF	Water bbls.	Gas -- oil ratio

Disposition of gas (state whether vented, used for fuel or sold)

Method of disposal of mud pit contents: COVERED WITH DIRT

CERTIFICATE: I, the undersigned, state that I am the PARTNER of the TOWN OIL COMPANY (company), and that I am authorized by said company to make this report, and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

Lester Town

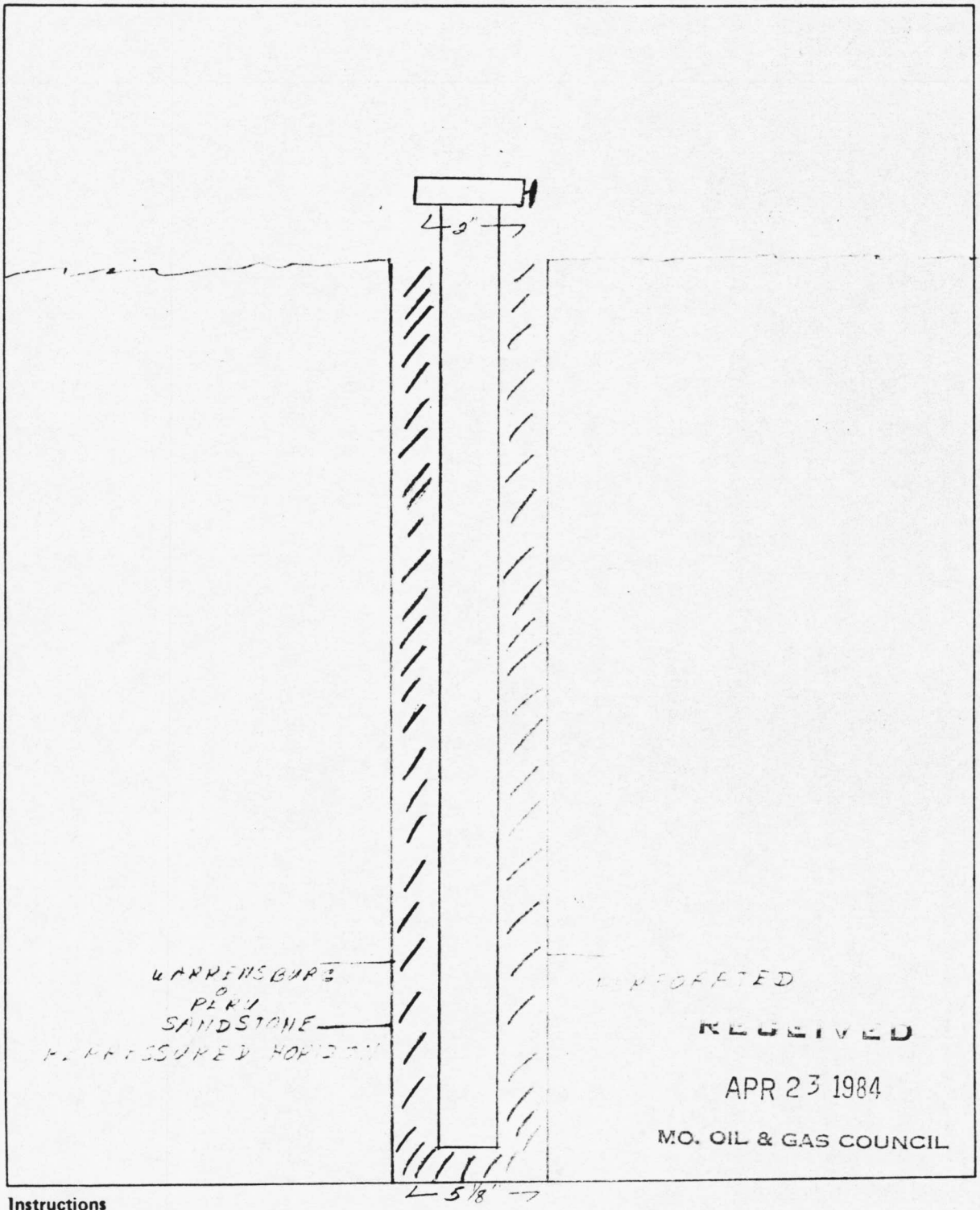
Signature

3/12/1982

County Jackson Permit # _____ Operator Town Oil Well # _____

Missouri Oil and Gas Council
INJECTION WELL SCHEMATIC

Form OGC-11



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MO. OIL & GAS COUNCIL

Instructions

On the above space draw a neat accurate schematic diagram of the applicant injection well including the following: configuration of well head, total depth or plug back total depth, depth of all injection or disposal intervals, and their formation names, lithology of all formations penetrated, depths of the tops and bottoms of all casing and tubing, size and grade of all casing and tubing, and the type and depth of packer, depth, location, and type of all cement, depth of all perforations and squeeze jobs, and geologic name and depth to bottom of all underground sources of drinking water which may be affected by the injection. Use back if additional space is needed, or attach sheet.

#20454

3/12/82

TOWN OIL CO.

"Purchaser of Crude Oil"

Route 4
Paola, Kansas 66071

913-294-2854
913-294-4232

Farm: Walton
Cass County, Missouri
Lease Owner: Town Oil Co.

Walton -- 11

Thickness of Strata	Formation	Total Depth	
8	Soil & clay	8	
28	Broken lime	36	
28	Shale	64	
9	Lime	73	
14	Shale	87	
2	Red bed	89	
5	Shale	94	
2	Red bed	96	
7	Shale	103	
6	Lime	109	
27	Shale	136	
4	Lime	140	
17	Shale	157	
2	Lime	159	
3	Shale	162	
23	Lime	185	
6	Shale	191	
20	Lime	211	
4	Shale & slate	215	
2	Lime	217	
2	Shale & slate	219	
7	Lime	226	Hertha
5	Shale	231	
3	Sandy lime	234	
34	Shale	268	
5	Sand	273	
62	Shale	335	
8	Sand	343	
18	Shale	361	
5	Lime shells	366	
36	Shale	403	
6	Sand	408	
2	Shale	410	
3	Lime	413	
3	Shale	416	
4	Broken lime	420	
8	Shale & slate	428	
8	Lime	436	
4	Shale	440	

Farm: Walton
Cass County, Missouri
Lease Owner: Town Oil Co.'

Thickness of Strata	Formation	Total Depth
6	Sand	446
11	Shale	457
4	Lime	461
4	Slate	465
2	Shale	467
5	Sand	471
2	Lime	473
12	Shale	485
1	Slate	486
13	Shale white	499
2	Lime shells	501
5	Shale	506
8	Sandy shale	514
4	Sandy shale	518
7	Sand broken	525
25	Sand	550
18	Shale	568
8	Sand	576
1	Shale	577
9	Sand	586
6	Sand	592
1	Lime	593
27	Shale	620

#20454

Area of Review Wells (½ mile radius around well) that Penetrate the Injection Interval

Lease	Well #	Location	Owner	Depth	Type	Date Spudded	Date Completed	Construction
Beary	54A	165' from (N)(S) sec. line 1652.25' from (E)(W) sec. line Sec. 4 T. 46 N. R. 33W	Emery Energy	640	O	1/81	1/81	Surface 9" hole 7" casing 20.583' Production 6¼" hole 4" casing 629.80'
Beary	54C	546.4 from (N)(S) sec. line 1652.2 from (E)(W) sec. line Sec. 4 T. 46 N. R. 33W	Emery Energy	640	O	12/80	12/80	Surface 9" hole 7" casing 21.583' Production 6¼' hole 4" casing 630.6'
Beary	54C1	546.6 from (N)(S) sec. line 1652.2 from (E)(W) sec. line Sec. 4 T. 46 N. R. 33W	Emery Energy	520	O	1/81	1/81	Surface: 9" hole 7" casing 21.67' Production 6¼" hole 4" casing 462.50'
Beary	54E	930.2' from (N)(S) sec. line 1652.2' from (E)(W) sec. line Sec. 4 T. 46 N. R. 33W	Emery Energy	640	O	1/81	1/81	Surface 9" hole 7" casing 20.75' Production: 6¼" hole 4" casing 628.35'
Beary	B-55	355 from (N)(S) sec. line 1542 from (E)(W) sec. line Sec 4 T. 46 N. R 33W	Emery Energy	640	O	1/81	1/81	Surface 9" hole 7" casing 21.42' Production 6¼" hole 4" casing 628.70'
		_____ from (N)(S) sec. line _____ from (E)(W) sec. line Sec. ____ T. ____ N. R. ____						
		_____ from (N)(S) sec. line _____ from (E)(W) sec. line Sec. ____ T. ____ N. R. ____						
		_____ from (N)(S) sec. line _____ from (E)(W) sec. line Sec. ____ T. ____ N. R. ____						

Attach additional sheets if necessary

Instructions

In the above grid place the descriptions of area of review wells (½ mile radius around well) of public record that penetrate the proposed injection zone. Complete the following: lease name, well number, location, owner, depth in feet, type of well (Oil = O, Gas = G, Water = W, Injection = I, Strat Test = S, Unknown = U, Other = specify), date spudded, date completed, and construction of the well. Give a brief but accurate description of the well's construction including all plugging and/or completion information, detailing the cement, casing, and subsurface casing information.

#20454

Area of Review Wells (½ mile radius around well) that Penetrate the Injection Interval

Lease	Well #	Location	Owner	Depth	Type	Date Spudded	Date Completed	Construction
Walton	T-1 (1-W)	900' from (N)(S) sec. line 2480' from (E)(W) sec. line Sec. 4 T. 46 N. R. 33W	Town Oil #20024	600'	I	Unknown	12/78	Surface: 8" hole 6¼" casing 500' Producing: 6¼" hole 4" casing 600' 20 sks cement
Beary	D-59	741.5' from (N)(S) sec. line 1064' from (E)(W) sec. line Sec. 4 T. 46 N. R. 33W	Emery Energy #20224	640'	I	11/81	11/81	Surface: 9" hole 6" casing 20' Production: 6¼" hole 4" casing 635' 83 sks
Beary	B-3	356' from (N)(S) sec. line 1012' from (E)(W) sec. line Sec. 4 T. 46 N. R. 33W	Emery Energy #20223	640'	I	11/81	11/81	Surface: 9" hole 6" casing 17.5' Production: 5¼" hole 2" casing 637' 83 sks
Beary	53 FW	1077' from (N)(S) sec. line 1760' from (E)(W) sec. line Sec. 4 T. 46 N. R. 33W	Emery Energy #20269	960'	D	1/81	3/81	Surface: 9" hole 7" casing 20' Production: 6¼" hole 4" casing 958.5' 150 sks
Walton	2W	330' from (N)(S) sec. line 2635' from (E)(W) sec. line Sec. 4 T. 46 N. R. 33W	Town Oil #20096	620'	I	12/80	12/80	Surface: 8 5/8" hole 6¼" casing 22' Production 5¼" hole 2" casing 520" 87 sks
Walton	3W	330' from (N)(S) sec. line 2305' from (E)(W) sec. line Sec. 4 T. 46 N. R. 33W	Town Oil #20097	620'	I	12/80	12/80	Surface: 8 5/8" hole 6¼" casing 21' Producing: 5¼" hole 2" casing 539' 87 sks
McLaughlin	SWD1	2002' from (N)(S) sec. line 1562' from (E)(W) sec. line Sec. 4 T. 46 N. R. 33W	Prairie Energy #20367	904'	D	7/82	7/82	Surface: Casing: 6 3/4" hole 4½" casing 900' Sks 139
		_____ from (N)(S) sec. line _____ from (E)(W) sec. line Sec. ____ T. ____ N. R. ____						

Attach additional sheets if necessary

Instructions

In the above grid place the descriptions of area of review wells (½ mile radius around well) of public record that penetrate the proposed injection zone. Complete the following: lease name, well number, location, owner, depth in feet, type of well (Oil = O, Gas = G, Water = W, Injection = I, Strat Test = S, Unknown = U, Other = specify), date spudded, date completed, and construction of the well. Give a brief but accurate description of the well's construction including all plugging and/or completion information, detailing the cement, casing, and subsurface casing information.

#20454

Area of Review Wells (½ mile radius around well) that Penetrate the Injection Interval

Lease	Well #	Location	Owner	Depth	Type	Date Spudded	Date Completed	Construction
Walton	5W	1201' from (N)(S) sec. line 2200 from (E)(W) sec. line Sec. 4 T. 46 N. R. 33W	Town Oil	600	0	2/82	2/82	Surface: 9" hole 6¼" casing 20.9' Production: 5 1/8" hole 2" casing 592'
Walton	6W	1555' from (N)(S) sec. line 2330 from (E)(W) sec. line Sec. 4 T. 46 N. R. 33W	Town Oil	593	0	9/77	9/77	Surface: 6¼" casing 20' Production: 2" casing 573'
Walton	8W	1580' from (N)(S) sec. line 1595' from (E)(W) sec. line Sec. 4 T. 46 N. R. 33W	Town Oil	614	0	9/77	9/77	Surface: 6¼" casing 18' Production: 2" casing 612'
Walton	20	2229' from (N)(S) sec. line 2383' from (E)(W) sec. line Sec. 4 T. 46 N. R. 33W	Town Oil	550	0	2/76	2/76	Surface: 8" hole 8" casing 20' Intermediate 8" hole 6¼" casing 456' Producing: 6¼" hole 4½" casing 535'
Walton	22	1413' from (N)(S) sec. line 1775' from (E)(W) sec. line Sec. 4 T. 46N N. R 33W	Town Oil	594	0	8/76	8/76	Surface 8" hole 8" casing 23' Production: 6½" hole 4¼" casing 570'
Walton	24	164' from (N)(S) sec. line 2505' from (E)(W) sec. line Sec. 4 T. 46 N. R. 33W	Town Oil	620	0	1/81	1/81	Surface: 8 5/8" hole 6¼" casing 21' Production: 5¼" hole 2" casing 620'
Walton	25	165' from (N)(S) sec. line 2835' from (E)(W) sec. line Sec. 4 T. 46 N. R. 33W	Town Oil	620	0	11/80	11/80	Surface 8 5/8" hole 6¼" casing 21' Production: 5¼" 2" casing 610'
Walton	26	165' from (N)(S) sec. line 2140' from (E)(W) sec. line Sec. 4 T. 46 N. R. 33W	Town Oil	620	0	10/80	10/80	Surface: 8 5/8" hole 6¼" casing 22' Production: 5¼" hole 2" casing 600'

Attach additional sheets if necessary

Instructions

In the above grid place the descriptions of area of review wells (½ mile radius around well) of public record that penetrate the proposed injection zone. Complete the following: lease name, well number, location, owner, depth in feet, type of well (Oil = O, Gas = G, Water = W, Injection = I, Strat Test = S, Unknown = U, Other = specify), date spudded, date completed, and construction of the well. Give a brief but accurate description of the well's construction including all plugging and/or completion information, detailing the cement, casing, and subsurface casing information.

#20454

Area of Review Wells (½ mile radius around well) that Penetrate the Injection Interval

Lease	Well #	Location	Owner	Depth	Type	Date Spudded	Date Completed	Construction
Walton	29	495' from (N)(S) sec. line 2140' from (E)(W) sec. line Sec. 4 T. 46 N. R. 33W	Town Oil	608	O	9/77	10/77	Surface: 7" casing 74' Production: 4" casing 596'
Walton	31	1261' from (N)(S) sec. line 1517' from (E)(W) sec. line Sec. 4 T. 46 N. R. 33W	Town Oil	590	O	1/81	2/81	Surface: 8 5/8" hole 6¼" casing 21' Production: 5¼" hole 2" casing 502'
Walton	32	1258' from (N)(S) sec. line 1847' from (E)(W) sec. line Sec. 4 T. 46 N. R. 33W	Town Oil	600	O	2/82	2/82	Surface: 9" hole 6¼" casing 20' Production: 5 1/8" hole 2" casing 588.05'
Walton	37	2221 from (N)(S) sec. line 1518 from (E)(W) sec. line Sec. 4 T. 46 N. R. 33W	Town Oil	595	O	3/82	3/82	Surface: 9" hole 6¼" casing 20.5' Production: 5 1/8" hole 6¼" casing 595.20
Asjes	C-4	547' from (N)(S) sec. line 882' from (E)(W) sec. line Sec. 4 T. 46 N. R. 33W	Emery Energy	639	O	11/81	11/81	Surface: 9" hole 6¼" casing 20' Production: 5¼" hole 2" casing 640'
Asjes	C-6	547' from (N)(S) sec. line 559' from (E)(W) sec. line Sec. 4 T. 46 N. R. 33W	Emery Energy	634	O	7/81	7/81	Surface: 9" hole 6¼" casing 20' Production: 5¼" hole 2" casing 636.5'
Asjes	C-8	547' from (N)(S) sec. line 18' from (E)(W) sec. line Sec. 4 T. 46 N. R. 33W	Emery Energy	670	O	7/81	7/81	Surface: 9" hole 6¼" casing 22' Production: 5¼" hole 2" casing 660'
Asjes	C-10	54 ' from (N)(S) sec. line 159' from (E)(W) sec. line Sec. 4 T. 46 N. R. 33W	Emery Energy	636	O	9/81	9/81	Surface: 9" hole 6¼" casing 20' Production: 5¼" hole 2" casing 636.5'

Attach additional sheets if necessary

Instructions

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#20454

Area of Review Wells (½ mile radius around well) that Penetrate the Injection Interval

Lease	Well #	Location	Owner	Depth	Type	Date Spudded	Date Completed	Construction
Asjes	E-4	812' from (N)(S) sec. line 882' from (E)(W) sec. line Sec. 4 T. 46 N. R. 33N	Emery Energy	629	O	11/81	11/81	Surface: 9" hole 6¼" casing 20' Production: 5¼" hole 2" casing 640'
Asjes	G-2	1306.5' from (N)(S) sec. line 1187.5' from (E)(W) sec. line Sec. 4 T. 46 N. R. 33W	Emery Energy	669.4	O	11/81	11/81	Surface: 9" hole 6¼" casing 20' Production: 5¼" hole 2" casing 670'
Asjes	G-4	1303' from (N)(S) sec. line 972' from (E)(W) sec. line Sec. 4 T. 46 N. R. 33W	Emery Energy	666.0	O	11/81	11/81	Surface: 9" hole 6¼" casing 17.6' Production: 5¼" hole 2" casing 670'
Beary	A-52	165' from (N)(S) sec. line 1872' from (E)(W) sec. line Sec. 4 T. 46 N. R. 33W	Emery Energy	642	O	1/81	1/81	Surface: 9" hole 7" casing 21' Production 6¼" hole 4" casing 628.4'
Beary	52C	546.46' from (N)(S) sec. line 1872.25' from (E)(W) sec. line Sec. 4 T. 46 N. R. 33W	Emery Energy	640	O	1/81	1/81	Surface: 9" hole 7" casing 35' Production: 6¼" hole 4" casing 627.80'
Beary	E-52	927.92' from (N)(S) sec. line 1872.25' from (E)(W) sec. line Sec. 4 T. 46 N. R. 33W	Emery Energy	641	O	1/81	1/81	Surface: 9" hole 7" casing 21.853' Production: 6¼" hole 4" casing 628.35'
Beary	53B	355.73' from (N)(S) sec. line 1762.25' from (E)(W) sec. line Sec. 4 T. 46 N. R. 33W	Emery Energy	640	O	1/81	1/81	Surface: 9" hole 7" casing 21.583" Production: 6¼" hole 4" casing 630.85'
Beary		738.19' from (N)(S) sec. line 1762.25' from (E)(W) sec. line Sec. 4 T. 46 N. R. 33W	Emery Energy	640	O	1/81	1/81	Surface: 9" hole 7" casing 20.9' Production: 6¼" hole 4" casing 627.5'

Attach additional sheets if necessary

Instructions

In the above grid place the descriptions of area of review wells (½ mile radius around well) of public record that penetrate the proposed injection zone. Complete the following: lease name, well number, location, owner, depth in feet, type of well (Oil = O, Gas = G, Water = W, Injection = I, Strat Test = S, Unknown = U, Other = specify), date spudded, date completed, and construction of the well. Give a brief but accurate description of the well's construction including all plugging and/or completion information, detailing the cement, casing, and subsurface casing information.

NALCO

REPORT OF WATER ANALYSIS

Company Town Oil Company

Date 5-4-81
Analysis No.
Sampling Date 5-3-81
Date Sample Rec'd.

Sample Marked Walton

DISSOLVED SOLIDS			RESULTS AS COMPOUNDS	
Cations	mg/l	meq/l		mg/l
Sodium, Na (Calc.)	6,969	303	as NaCl	
Calcium, Ca	560	28	as $CaCO_3$	1,400
Magnesium, Mg	194	16	as $CaCO_3$	800
Barium, Ba	5	0	as $BaSO_4$	9
Cations Total	7,728	347		
Anions				
Chloride, Cl	11,897	336	as NaCl	19,600
Sulfate, SO_4	0	0	as Na_2SO_4	0
Carbonate, CO_3	0	0	as $CaCO_3$	0
Bicarbonate, HCO_3	688	11	as $CaCO_3$	564
Anions Total	12,585	347		
Total Dissolved Solids (Calc.)	20,313			
Total Iron, Fe	.15		as Fe	.15
Acidity to Phenolphthalein, CO_2	95		as $CaCO_3$	216

OTHER PROPERTIES	
pH	7.9
Specific Gravity	1.003
Turbidity (JTU)	

$CaCO_3$ STABILITY INDEX
@ 70° F.
@ 120° F.
@ 160° F.
Method of Stiff & Davis

Remarks:

NALCO CHEMICAL COMPANY
VISCO CHEMICALS
P O BOX 87 • SUGAR LAND, TEXAS 77478

NALCO trademarks of Nalco Chemical Company.

5-24A