# WATER CONTAMINATION STUDY

### GEORGE M. BLOCKER WATER CONTAMINATION STUDY JAL, NEW MEXICO

STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT OIL CONSERVATION DIVISION HOBBS, NEW MEXICO

> John W. Runyan, Geologist Oil Conservation Division in cooperation with the Water Resources Division Roswell, New Mexico

July 20, 1978

#### **APPENDIX**

Location Plat and U.S.G.S. Topo Map

Results of Study

General Data

Test Well Data

Well Numbering System

Daily Field Reports

Water Analysis

Driller's Logs

Maps -- Water Chloride Map Water Movement Map Top Redbed Map Well Location Map

USGS surface topo. map.

George Blocker Water Contamination Study, Area outlined in heavy dashed lines.

# GEORGE BLOCKER WATER CONTAMINATION STUDY

#### RESULTS

The data and maps compiled from the information obtained from 19 test wells and eight water wells indicates that the main source of contamination of Mr. Blocker's water well came from Gulf Oil Company McBuffington old abandoned battery pit located in N-13-25-37.

Even though injection water came up outside on the surface from Gulf Oil Company McBuffington SWD Well #2 there is very little evidence to support the possibility that this salt water disposal well was the cause or contributed to the contaminated area in question.

There were eight test wells drilled downdip, east, west, and south of Gulf's SWD well. The chloride content of these wells range from 28 ppm to 114 ppm chlorides, indicating little if any salt water passed through the pleistocene fill southwestward to the area of contamination.

That the pit is a possible cause is indicated by the chloride content of test well #7 on edge of pit, and that the test well and water well control points cause the chloride contours to focus at the pit.

The contaminated area is mainly confined to a Redbed low, located in the bottom of the local drainage pattern. This low has a closure of + 20 feet and this would more or less cause entrapment of the contaminated water.

Respectfully submitted,

John W. Runyan, Geologist Oil Conservation Division The water movement in the area is from the northwest to southeast following a Redbed and surface draw. The rate of water movement through the Pleistocene to recent fill is from zero to three feet per day, depending on localized gradients. The Redbed map shows two areas which are actually lows within the drainage pattern. One in the center of the W/2 of Section 13, T25S, R37E, has +30 feet of closure and the other one in the SW/4 of SE/4 of Section 13, T25S, R37E, has +20 feet of closure. Both of these lows would trap and hold water, particularly chlorides which are heavy in relation to water.

The closed low located in the center of the W/2 of Section 13 was reported to have contaminated water in 1965. Since 1965 the apparent contamination has cleared up some in three wells, with one well going from 809 ppm to 187 ppm. The main area of contamination around Mr. Blocker's water well mostly lies in the second closed low in the SW/4 of SE/4 of Section 13.

Test holes Nos. 12, 14, 15 & 16 did not encounter any water. Drilling samples were taken at various depths and chloride analysis were run on the samples at a ratio of one part water to one part sample. Test wells Nos. 4, 5, & 17 also did not encounter any water. These test holes were circulated with fresh water in an attempt to pick up any chlorides from the formation and samples were analyzed by standard titration method.

There is a large covered pit located at Gulf's McBuffington lease battery. This pit was abandoned and covered in 1967 when Commission order R-3221 became effective. Exact size and depth of pit is unknown, but surface scar is 100 ' X 150' in size.

#### GENERAL DATA

Mr. Blocker first contacted this office in September, 1977, about the possibility of doing a test well chloride study in the area around his contaminated water well located in 25.37.13-43113.

This study was due to Gulf's McBuffington #2 SWD well developing a surface waterflow, geyser, on March 9, 1976. This geyser located 200 feet NE of the SWD well formed a small pond which had a chloride content of 48,422 ppm chlorides. Gulf's McBuffington #2 SWD well is located 1500 feet northeast and updip from the Blocker water well.

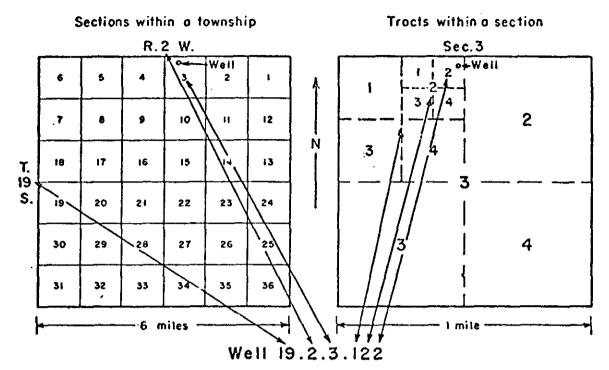
In December 1976, Gulf had Reed and Associates, consulting hydrologists, from Midland, Texas, to do a study on the contaminated area in question.

Three test wells were drilled in a line between Gulf's McBuffington #2 SWD well and Mr. Blocker's contaminated water well. The Reed Study and report stated that they did not believe that the McBuffington #2 SWD well contaminated the water well.

On January 3, 1978, I met with Mr. Jim Wright and Pinky Gallagher of the Water Resources Division, and Mr. Blocker and his lawyer at the Hobbs Oil Conservation Division Office. Mr. Blocker wanted to expand the Reed Study by drilling several additional water test wells.

Drilling began January 23, 1978, and was completed March 2, 1978, with a total of 16 test wells being drilled, Nos. 4 through 19.

Besides the test wells that were drilled, there are eight water wells in the immediate area which were sampled and used for additional control. The test wells and water well data is listed on the Test Well Data Page as well as on the maps enclosed in this report.



.-- System of numbering wells in New Mexico.

# BLOCKER TEST WELL DATA

TW #4 -	25.37.1341220									
BY	SAMPLE NO.	CHLORIDE	TD	RB	ELEVATION	W.L.				
OCD ·	#1 - Circulated	0	60′	54'	3084.4'	0				
TW #5 -	25.37.1341100									
BY	SAMPLE NO.	CHLORIDE	TD	RB	ELEVATION	W.L.				
OCD WRD	#1 Circulated #1 Circulated	284 247	76'	72'	3081.1'	0				
TW #6	25.37.1341311									
ВУ	SAMPLE NO.	CHLORIDE	TD	RB	ELEVATION	W.L				
OCD WRD WRD WRD	#1 Jetted #1 Jetted #2 Trip #3 Trip	284 217 114 106	90'	87'	3078.3'	74.5				
TW #7 -	- 25.37.1334120				·					
BY	SAMPLE NO.	CHLORIDE	TD	TB	ELEVATION	W.L				
OCD WRD	#1 Jetted #1 Jetted	7526 7770	128'	126'	3077.7'	77.2'				
NOTE: Test well Nos. 4, 5, 6 & 7 drilled with 284 ppm Cl water from Jal Country Club. Test wells 819 drilled with 85 ppm Cl water from City of Jal.										
TW #8 -	- 25.37.1334113									
BY	SAMPLE NO.	CHLORIDE	TD	RB	ELEVATION	W.L.				
OCD OCD WRD WRD	#1 Jetted #2 Jetted #1 Jetted #2 Jetted	78.0 71.0 55.0 60.0	110'	108'	3082.1'	74.1				

TW #9	25.37.1332413			·		
ВҮ	SAMPLE NO.	CHLORIDE	TD	RB	ELEVATION	W.L.
OCD OCD WRD WRD WRD	OCD #2 Jetted WRD #1 Jetted WRD #2 Jetted		100'	97'	3078.8'	74.1'
<u>TW #10 -</u>	25.37.1334442	) <u>-</u>				
ВҮ	SAMPLE NO.	CHLORIDE	TD	RB	ELEVATION	<u>W.L.</u>
OCD WRD WRD	#1 Jetted #1 Jetted #2 Trip	56.8 64.0 63.0	140'	137'	3078.5	76.4'
<u>TW #11</u>	25.37.1344133					
ВҮ	SAMPLE NO.	CHLORIDE	TD	RB	ELEVATION	W.L.
OCD WRD	#1 Circulated #1 Circulated	127 103	55'	44'	3074.5'	0 @ 54'
TW_#12	25.37.1343214					
ВҮ	SAMPLE NO.	CHLORIDE	TD	RB	ELEVATION	W.L.
OCD OCD WRD	#1 Circulated #2 Sand @ 50' #1 Circulated	85.2 56.8 79.0	70'	60'	3072.41	0 @ 60'
<u>TW</u> #13	25.37.13431443					
ВҮ	SAMPLE NO.	CHLORIDE	<u>T.D.</u>	<u>R.B.</u>	ELEVATION	W.L.
OCD OCD OCD OCD WRD	#1 Jetted #2 Jetted #3 Jetted #4 Jetted #1 Jetted	85.2 142.0 170.4 170.4 112	140'	~	3071.9'	68.5'
TW #14	25.37.1341243					
<u>B</u> Y	SAMPLE NO.	CHLORIDE	<u>T.D.</u>	R.B.	ELEVATION	W.L.
0CD 0CD 0CD 0CD 0CD	#1 Circ. @ 60' #2 Circ. @ 61' #1 Sand @ 55' #2 Sand @ 50' #3 Sand @ 40' #4 Sand @ 45'	71.0 71.0 28.4 28.4 28.4 28.4	61'	60'	3077.4'	0 @ 54'

TW	#1	5	25.	37.	13	412332
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ВУ	SAMPLE NO.	CHLORIDE	T.D.	R.B.	ELEVATION	<u>W.L.</u>
0CD 0CD 0CD	#1 Sd. @ 40' #2 Sd. @ 50' #3 Sd. @ 60'	35.5 35.5 35.5	65'	65'	3076.7'	0 @ 55'
TW #16	-25.37.13412333					
<u>BY</u>	SAMPLE NO.	CHLORIDE	<u>T.D.</u>	R.B.	ELEVATION	W.L.
OCD WRD	#1 Circ. @ 60' #2 Circ. @ TD	85.2 83.0	66'	64'	3077.1'	0 @ 66'
TW #17	-25.37.13421331					
ВУ	SAMPLE NO.	CHLORIDE	T.D.	R.B.	ELEVATION	<u>W.L.</u>
OCD OCD OCD OCD WRD	#1 Circ. @ 30' #2 Circ. @ 40' #3 Circ. @ 55' #4 Circ. @ 57' #1 Circ. @ TD	70 70 70 113 108	98'	0	3075.7'	72.3'
TW #18	-25.37.13413134					
ВҮ	SAMPLE NO.	CHLORIDE	T.D.	R.B.	ELEVATION	W.L.
OCD OCD OCD WRD	#1 Circ. 70' #2 Circ. 80' #3 Circ. 98' #1 TripTD	70 70 84 98	98'	0	3075.7'	72.3
TW #19	-25.37.13323232					
BY	SAMPLE NO.	CHLORI DE	<u>T.D.</u>	<u>R.B.</u>	ELEVATION	W.L.
OCD OCD OCD OCD OCD OCD OCD WRD	#1 Circulated #2 Circulated #3 Circulated #4 Circulated #5 Circulated #6 Circulated #7 Circulated #1 Circulated	199 341 639 710 753 781 781	110'	108'	3079.5'	0 @ 76'

# REED---BLOCKER REPORTED

TEST WELL	TAKEN BY	CHLORIDE	T.D.	R.B.	W.L.	DATE
#1 #1	Reed Blocker	1376 1335	122'	118'	68'	12-18-76 12-31-76
#2 · #2	Reed Blocker	461 1761	100'	77'	70'	12-18-76 12-31-76
#3 #3	Reed Blocker	0 4175	?	62'	0	12-18-76 12 <b>-</b> 31-76

# WATER WELLS IN AREA

LOCATION	OWNER	CHLORIDE	TAKEN BY	DATE
25.37.13-43113	Blocker	1824	WRD	3-30-76
25.37.13-43113	Blocker	3582	WRD	4-20-76
25.37.13-43113	Blocker	3650	WRD	11-23-76
25.37.13-43113	Blocker	4099	Reed	12-2-76
25.37.13-43113	Blocker	3770	WRD	01-18-78
25.37.13-431312	?	2345	WRD	1-17-78
25.37.13-342121	City Jal	11650	Reed	12-31-76
25.37.13-342121	City Jal	19990	WRD	1-18-78
25.37.13-312422	?	52	WRD	1-18-78
25.37.13-312434	? ? ? ? ?	51	USGS	7-27-54
25.37.13-312434		106	WRD	4-20-76
25.37.13-312434		108	WRD	3-9-77
25.37.13-312434		104	WRD	1977
25.37.13-312434		104	WRD	1-18-78
25.37.13-31244	City Jal	317	WRD	10-14-65
25.37.13-321411	City Jal	809	WRD	10-15-65
25.37.13-321411	City Jal	187	WRD	1-18-78
25.37.13-323344	City Jal	113	Reed	12-2-76
25.37.13-323344	City Jal	55	WRD	1-18-78

#### NEW MEXICO OIL CONSERVATION COMMISSION

#### FIELD TRIP REPORT

			DATE	March 11, 1976	
Name of Employee	LESLIE A. CLE	MENTS	<del></del>		
Time of Departure	10:00 A.M.	Time of	Return	5:00 p.m.	
Miles Travelled	110				
In the listing wells or	space below please : leases visited.	indicate purpose	of trip and	duties performed,	

Mr. Jerry Sexton and myself met Mr. George Blocker of Jal, New Mexico and went to Gulf's Learcy McBuffington SWD Well #2-J, Sec. 13, T25S, R37E. Gulf had a workover unit on the well and were fishing the tubing at inspection time. Approximately 200 feet east of the well water has surfaced in a shallow blown-out area forming three mud-mounds and a small pond of salt water.

The tubing pulled from the well was as follows: 2 whole joints and fragments of another joint. The first joint pulled had a rather large hole approximately 20 feet low the tubing hanger, this is the first hole noticed (check photos taken). I collected water sample and took photographs of pond. (Note -- in checking the well file, it states that tubing is 2 7/8" plastic lined, when tubing is apparently 2 3/8" EUE).

Employee's Signature

District #1

TIL CONSERVATION COMM. Santa Fe

· NEW	MEXICO	OIL	CONSTI	RVATION	COMMISSION
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C F T T E Time of T T T T T T T T T T T T T T T T T T	DOHN W. RUNYAN  Departure 8 a.m.  Space below indicate the ded. listing wells or listing wells or lister.  Aug. 137 to Mr. George 8100 determine source of sated 25.37.13.43113.	the purpose of the trip pases visited and any suffern cker's property to be	4 p.m.  and the dut action taken	121 District ICar No. 0F-4 ics
E S L S T Name C Time of T I C Y N I In the perform R Signatus  W 0 0 7 0 H-13-25-wells to	space below indicate the d. listing wells or ly re ring w. My 37 to Mr. George Blow determine source of	Time of Return  the purpose of the trip pases visited and any  cutars  cker's property to be	4 p.m.  and the dut action taken	Car No. 0F-4
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wells to	determine source of	cker's property to be		
	acca 2010/1:10140/101	water contamination	egin drillin in Mr. Bloc	ig water test :ker's water
McBuffin	1 #4 located 230' at gton #2 in H-13-25-3	7.	· •	
. Top redb	ed at 54', TD at 60'	. Test hole was dry	no water	samples obtain
Those pr	esent: Mr. Jim Wrig Charlie Reed	ht, State Engineer, . , Mr. Blocker and Mr.	John W. Runy . Sumruld, d	an, OCC, riller.
Also dr well #2.	illed test well #5,	located 465' at 254 <sup>0</sup>	MN from Gul	f P&A (SWD)
	ed at 72', TD 76'. ed sample = 284.0 ppr	n Cl same as drill	ing water.	Test well #5
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H . Housekeeping

W = Water Contamination

D \* Drilling Operation
T \* Well Test

P = Plugging

C = Plugging Cleanup H = Mishap or Spill O = Other

CLASSIFICATION

U = Underground Injection Control - Any inspection of or related to injection project, facility, or well or resulting from injection into any well. (SWD, 2ndry injection and production wells, water flows or pressure tests, surface injection equipment, plugging, etc.)

O = Other - Inspections not related to injection

1 = Injection

S = SUD

U = Underground Storage

P = Production

0 = Other

G = General Operation

I N	C.	F	II O	0 0	HEW MEXICO OIL CONSERVATION COMMISSION FIELD TRIP REPORT
SE	S 5	CIL	U R S	A R T	Name JOHN W. RUNYAN Date 1-24-78 Hiles 113 District I
CTI	F Z	I T		E R	Time of Departure 7:30 am Time of Return 3:30 pm Car No. 0F-4
8	FICATION	•		H O U R S	In the space below indicate the purpose of the trip and the duties performed, listing wells or leases visited and any action taken.  Signature W. Manham
•					
W	0	0	7	0	J-13-25-37 to Mr. George Blocker property to continue drilling water test wells to determine source of water contamination of Mr. Blocker's water wel
		٠			Test well #6 located 720' NW of Gulf McBuffington #5 well located in J-13-25-37.
•					Top redbed at 87' TD at 90' Circulated sample = 284 ppm Cl Trip sample by satte engineer (1-25-78) = 114 ppm Cl.
					Test Wells #4, #5, & #6 were drilled with Jal Country Club water which is 284 ppm chlorides. We switched to city of Jal water which is 85 ppm chlorides and will use city water to drill with for rest of test wells.
					Those present: Mr. Jim Wright, State Engineer, J.W. Runyan, OCC, Mr. Block and Mr. Sumruld, driller.
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NATURE OF SPECIFIC WILL OR FACILITY IS FECT. INSPECTION TYPE INSPECTION PERFORMED CLASSIFICATION U = Underground Injection Control - Any H - Housekeeping W = Water Contamination

D = Drilling Operation

T " Well Test P = Plugging

C = Plugging Cleanup

H = Mishap or Spill

O = Other

- inspection of or related to injection project, facility, or well or resulting from injection into any well. (SWD, 2ndry injection and production wells, water flows or pressure tests, surface injection equipment, plugging, etc.)
- 0 = Other Inspections not related to injection

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O = Other G = General Operation

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				<u>\$</u>			<u> </u>
W	0	0	12	0	N-13-25-37 To Mr. George Blocker's person test wells.	property to co	ontinue drilling water
					Test well #7 located 490' north of 0 N-13-25-37 and 90' SW of Gulf's abar	Gulf's McBuffi ndoned battery	ington (dual) #4 well in pit (now covered).
					Top redbed at 126', TD at 128', chlo	orides 7526.0	ppm.
					Had to run 2" casing in hole and 1" Blew down tubing for about one hour	tubing to get before good s	water sample. sample could be obtained.
•					Those present: Mr. Jim Wright, Sta Mr. Blocker and Mr.		
			<b>.</b>		Also State Engineer's crew came from test wells #4 thru 8.	n Carlsbad and	i ran elevations on
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H = Housekeeping

W = Water Contamination

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T = Well Test P = Plugging

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plugging, etc.)

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G = General Operation

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	ļ					1.0 ppm Cl blew				•
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0 = Other - Inspections not related to injection

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W	# K		Cont		tion U = Underground Injection Control - And inspection of or related to inject project, facility, or well or results.	ion	5 " SI	ijection :D :derground			
T	= M	ell Lugg	rest		from injection into any well. [SWI injection and production wells, wal	D, 2ndry	•	Storage Oduction			
С	[ין ה	luggi	iný (	Clean Spil	p or pressure tests, surface injection		0 = 0:				
	= Ot		-		1		[	• = + -			

0 - Other - Inspections not related to injection

Time of Departure 7 am Time of R  In the space below indicate the purpose of the performed, listing wells or leases visited and signature Color Start  W U S 11 2 13-25-37 To East of Jal to drill test well study. Test well #10 top of redbed137	-78 Miles 104 District I Return 6:30 pm Car No. 331 me trip and the duties and any action taken.
W U S 11 2 13-25-37 To East of Jal to drill test well study. Test well #10 top of redbed137	
Well set overnight trip sample used to get Chloride 56.8 ppm	feet O feet

PERFORMED

H = Housekeeping

P = Plugging

TYPE INSPECTION

C = Plugging Cleanup
T = Well Test

F = Vaterflow

H = Mishap or Spill
W = Mater Contamination

0 = Other

INSPECTION CLASSIFICATION NATURE OF SPECIFIC WELL OR FACILITY INSPECTION

U = Underground Injection Control - Any

inspection of or related to injection project, facility, or well or resulting from injection into any well. (SWD, 2ndry injection and production wells, water flows

or pressure tests, surface injection equipment, plugging, etc.)

O = Other - Inspections not related to injection

D = Drilling

P = Production
I = Injection
S = SWD

U = Underground Storage

G = General Operation

O = Other

					NEW MEXICO OIL CONSERVATION COMMISSION	
IRSPECTION	CLASSIFICATION	F A C I L I T Y	A C I L I T	HOURS	QUARTER HOURS	Name EDDIE SEAY Date 2-2-78 Hiles 119 District  Time of Departure 7 a.m. Time of Return 6:30 p.m. Car No. 33  In the space below indicate the purpose of the trip and the duties performed, listing wells or leases visited and any action taken.  Signature
2	ב	S	<u></u>	2	13-25-37 to east of Jal on Blocker ranch Dollarhide Area to drill water contamination well #11.  Top red bed 44 feet TD 55 feet Circulated water sample 127 ppm No water after circulation, redbeds are above water table. Rig down move to test well #12 13-25-37 Blocker Contamination study.  Top red bed 60 feet TD 70 feet Circulated sample 85.2 ppm No water after circulation, above water table.  Test well #13 13-25-37 130 feet west of Gulf well #3. Drilled to 147 feet no redbed circulated sample 140 ppm. Let set over night.	

TYPE INSPECTION PERFORMED CLASSIFICATION U = Underground Injection Control - Any H = Housekeeping inspection of or related to injection project, facility, or well or resulting from injection into any well. (SUD, 2ndry injection and production vells, water flows P = Plugging C = Plugging Cleanup T - Well Test F = Paterflow M \* Mishap or Spill W \* Mater Contamination or pressure tests, surface injection equipment, plugging, etc.) O = Other

O = Other - Inspections not related to injection

INSPECTION

U = Underground Storage G = General

NATURE OF SPECIFIC WILL OR FACILITY INSPECTED

P = Projuction
I = Injection

D = Drilling

S = SND

Operation O = Other

-			•	FIGURE TRIP REPORT	
H 1	r C	F	H	Ü	· · · · · · · · · · · · · · · · · · ·
S P	S S	C	U R S	R	Name JOHN W. RUNYAN Date 2-3-78 Hiles 111 District I
E C T	F 1 C A	L T	3	T E R	Time of Departure 9:00 am Time of Return 7:15 pm Car No. 49
i	ć	Y		н	
N	T i o			Ö	In the space below indicate the purpose of the trip and the duties performed, listing wells or leases visited and any action taken.
	й			R S	Signature John W. Minyan
W	0	0	10	1	13-25-37 to Jal area to witness the drilling of test well #13, George Blocker water contamination study.
					Test Well #13 re-entry of old homestead well located 25.37.13.34442 top redbeds at 137 feet. TD at 140 feet Chlorides = 56.8 ppm
					Those present Mr. George Blocker, Jim Wright, Mr. Sumruld, Eddy Seay
	]				and myself.
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TYPE INSPECTION PERFORMED

#### INSPECTION CLASSIFICATION

NATURE OF SPECIFIC WILL'S OR FACILITY INSPECTE.

- H = Housekeeping
- P = Plugging
  C = Plugging Cleanup
  T = Well Test
- r = Paterflow
- H = Mishap or Spill W = Pater Contamination
- O = Other

- U = Underground Injection Control Any inspection of or related to injection project, facility, or well or resulting from injection into any well. (SVD, 2ndry injection and projection wells, water flows or pressure tests, surface injection equipment.
  - pluqqing, etc.)
- Q = Other Inspections not related to injection
- D = Drilling
- P = Production
- I = Injection
- S = SWD U = Underground
- Storage G = General
  - Operation
- 0 = Other

	Date of collection 0/- 30.		10-119	12
	Date of collection O' O'  Ignition Loss Color  Dissolved Solids: Residue at 180°C  Calculated (Son)  Tons per Acre Foot  Hardness ca CaCO <sub>3</sub>	SIO <sub>2</sub> Fe Ca	●pm	ppm
apple deter pumping hrs	Bon-carbonate Rardness  3 No SAR PR  Specific Conductance (microschos at 25°C) 3403			
of coll fettill  presence Clear to SI. meterk  out (*1) — Use OKS.  pollector DI Wright  bould That 20	· <del>/</del>	HCO <sub>3</sub> CO <sub>3</sub> SO <sub>4</sub> CI F		872
eta completed Ob Feb 1973  backed by		NO <sub>3</sub>		

25.37. 13. 32413

ANALYTICAL STATEMENT-GWOOTTY LER

		· • •	=		
		LAN NO.	753- 10	227	
Location TH#9	Date of collection TAN 3				==
Gecoud saugle	Ignition LossColor	_	<b>€</b> pm	ppm	= ;
	Dissolved Solids:	SIO2		<del></del>	
owner G. Blocker	Residue at 180°C	Fe			
wat 14. Diother	Calculated (Sum)				_
	Tous per Acre Foor	Co			_
Deta drid Cased to Depth	t Rardsess as CaCO3	Mg			-
ver QA-/	Non-carbonate Hardness	_ No			_
VER_ GAL Vacor levelft		_ K _			
Sampled after pumping hrs	Specific Conductance	1 -			•
Yield hrs	(ateroshos at 25°C) 3931	-			
Pe of coll Jetted	000 = 1000 guil	-}			
Appearance Cloud	-	nco3 -		<del></del>	
Tomp ('7) Use _ 0b 5	•	CO3 -		<del></del>	
Collector	-	SO4 _		4.4	
Chamist CARYEZ	•			1000	
Date completed_ 06 Feb 1978	•	-			
Checked by	•	NO3 -			•
Data transmitted		] -			;
		i	1		

I II S P E C T I	CLASSIFICA	F A C I L I T Y	H O U R S	OU ARTER	Tim	e of Depart	SEAY ure 7 a.	m	TRIP Date	2-3-78 of Return	_ Miles 5 p.m.		_Car No.	
<u>н</u>	1 0 H			0 U R S	per:	formed, lis	ting wells,	or leases	isite	d and any	and the (action ta)	cen.		
W	ឋ	S	10		stu Ran 1st 2nd 3rd 4th Rig Tes Top	dy. water sam sample sample sample down and: t Well #14 red bed k sand and	ple every 85.2 ppm 142 ppm 170 ppm 170 ppm moved to d 255 fe - 60 feet soil samp	test well 30 minutes rill test et south o	at .? well f Gul feet	47 feet #14 f SWD well				tion
					Cir	culation s	ample at T	D 71 pp	m					
			<del>-</del>						. •					
						•								
								•						
	T			CTIO	N			SPECTION					P EPECIFIC	
I C T F P	PERFORMED  H = Housekeeping P = Plugging C = Plugging Cleanup T = Well Test F = Materflow M = Minhap or Spill M = Mater Contamination O = Other					ins pro fro inj or	pection of nect, facil m injection ection and	njection Cor or related lity, or we n into any s production ents, surface	to in 11 or sell. vells	resulting (SWD, 2nd water fl	ows	P = 5 = 5	Drilling Froduction Injection SkD Undergrou Storac General Operat	nd ge

0 = Other - Inspections not related to injection

.

O = Other

**....** .

# NEW MEXICO OIL CONSERVATION COMMISSION

I S P E C T I O H	CLASSIFICATION	F A C I I T Y	H O U R S	QUARTER HOURS	Name JOHN W. RUNYAN Date 2-28-78 Hiles 116 Time of Departure 8:30 am Time of Return 5:30 p.m.  In the space below indicate the purpose of the trip and the duties performed, listing wells or loases visited and any action taken.  Signature Time W. Maryam	
<b>W</b>	0	0	8	0	13-25-37 To Jal Area to witness the drilling of test wells #15 ar George Blocker Water Contamination Study.  Test well #15 located 27' NE of TW #3 in line with Gulf's P&A SW McBuffington #2. Caught drilling samples every 5', starting at drilled on air.  TD at 60 feet  Top of redbeds at 60 feet  Test Well #16, located 62' SW of TW #3 (J-13-25-37) caught drill samples every 5' starting at 40' circulation sample = 85.2 pg chlorides. Drilled with water.  Top redbeds at 64'  TD at 66 feet.  Those present were: Mr. George Blocker, Jim Wright, Mr. Sumrulc Assoc. "chester" and myself.	ID well 35',
					Assoc. Chester and myserr.	

TYPE INSPECTION PERFORMED

#### INSPECTION CLASSIFICATION

NATURE OF SPECIFIC WILL OR FACILITY INSPECTED

- H = Housekeeping
- P = Plugging C = Plugging Cleanup T = Well Test
- F = Materflow
- M = Mishap or Spill W = Mater Contamination O = Other

- U = Underground Injection Control Any inspection of or related to injection project, facility, or well or resulting from injection into any well. (SND, 2ndry injection and production vells, water flows or pressure tests, surface injection equipment,
- plunging, etc.)
- O = Other Inspections not related to injection
- D = Drilling
- P = Production
- I = Injection
- S = ShD U = Underground
- Storage G = General
- Operation
- O = Other

II S P E C T I O N	CLASSIFICATION	FACILITY	HOURS	QUARTER HOUR	Name EDDIE SEAY  Date 3-1-78  Time of Departure 7 am  Time of Return 6 p.m.  Car No.  In the space below indicate the purpose of the trip and the duties performed, listing wells or leases visited and any action taken.  Signature
	U	S	11	S	18-25-37 to East of Jal to drill test well #17 in Blocker contamination study. Caught samples 30 feet 71 ppm 40 feet 71 ppm 55 feet 71 ppm 57 feet 113 ppm Top redbed 56 feet TD 57 feet  18-25-37 drill test well #18 Blocker contamination study 285 feet north of test well #1 TD 98 feet 50 feet sample 71 ppm 85 feet sample 71 ppm 85 feet sample 84 ppm

H = Housekeeping n = nousekeeping
P = Pluaging
C = Pluaging Cleanup
T = Well Test
F = Pater Clow
T = Control or Soit!

TYPE INSPECTION

PERFORMED

N = Mishap or Spill W = Mater Contamination

O - Other

INSPECTION CLASSIFICATION

U = Underground Injection Control - Any inspection of or related to injection project, facility, or well or resulting from injection into any well. (SWD, 2ndry injection and production wells, water flows or pressure tests, surface injection equipment, plumping, etc.) plugging, etc.)

O = Other - Inspections not related to injection

D = Drilling

NATURE OF SPECIFIC WELL

OR FACILITY INSPECTED

P = Production

I = Injection S = SkD U = Underground

Storage

G = General Operation

O w Other

 j	c	F	н	0	NEW MEXICO OIL FIEL		RVATION COM REPORT	MISSION		
NSTECTION	LASSIFICATION	A C I L I T Y	OURS	DARTER HOURS	Name EDDIE SEAY  Time of Departure 7 am  In the space below indicate the puperformed, listing wells or cleases  Signature Additional Seasons	Time	3-2-78 of Return of the trip ed and any	6 pm and the dutie action taken.	District Car No s	
W	U	S	11		13-25-37 to East of Jal, Blocker #19 200 feet NW of Gulf well #9  Top red bed 108 feet TD 110 feet  Sample #1 198.8 ppm Sample #2 340 ppm sample #3 639 ppm Sample #4 710 ppm Sample #5 752 ppm Sample #6 781 ppm Sample #7 781 ppm	conta	mination			
TYPE INSPECTION PERFORMED					n inspection classificatio	::			OF EPECIFIC	

P = Plunging C - Plugging Cleanup T = Well Test F = Paterflow

N = Housekeeping

M = Mishap or Spill W = Mater Contamination 0 = Other

U " Underground Injection Control - Any inspection of or related to injection project, facility, or well or resulting from injection into any well. (SUD, 2ndry injection and projection vells, mater flows or pressure tests, surface injection equipment, plusging, etc.)

O = Other - Inspections not related to injection

D = Drilling

P = Projection T = Injection

S = SWD

U = Underground Storage

G = General Operation O . Other

Well Owner	rship: BLOCKER WATER STUDY	Well No. TW #12					
Land Statu	us: State Federal Y Fee						
Well Locat	tion: Unit, Section_13_, T25_S - R37_	E 43214					
Type Well:	Water test well	Depth: 70 feet.					
Well Use:							
Sample Num	mber: #2 @ 40-50' Date Taken	. 2-2-78 Eddie Seay					
	Specific Conductance:m/						
	Total dissolved Solids:PPM.						
	Chlorides: 56.8 PPM.						
	Sulfates:PPM.	•					
	Ortho-phosphates: V. low Low	Med. High					
	Sulfides: None Low	Med. High					
	* * **********************************						
Date Anali	zed: By: John 1	W. Runyan					
Remarks:	T						
```	distilled water. Ratio 2:1 (4 oz sample + 8 oz water)						
25 ml samp	ole = 142.0 x .2 titration x 2 = 56.8 ppm						
<del> </del>		الاستان و المراجع في المراجع المراجع المراجع المراجع المراجع المراجع المراجع المراجع المراجع المراجع المساوية المراجع المراجع					

Well	Ownershi	lp: BLOCKE	R WATER STUDY		Well No. TW #14						
Land	Status:	☐ State	☐ Federal	X Fee							
Well	Location	: Unit, 8	Section 13 , T	<u> 25</u> 8 - R	37_E41243						
<u>sampl</u>	sample sand from 55'										
Туре	Well:	water test	well		Depth: 61 feet.						
Well	Vse:					_					
Sampl	e Number	#1 @ 55'+	-	Date Take	n: <u>2-2-78 Eddie Seay</u>						
		Specific Condu	ictance:	m/_							
		Total dissolve	ed Solids:	PPM.							
		(	Chlorides:28	.4 PPM.							
			Sulfates:	PPM.							
		Ortho-phosphat	es: V. low	Low	Med. High						
		Sulfid	les: None	Low	Med. High						
		-									
Date .	Analized	2-10-78	magnetis mercini personal de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la constitución de la	John W.	. Runyan						
Remar	ks :				at 55' mixed as	-					
<del></del>	a albanda ang panggana da ba	·····		oz water.	Ratio 2:1 (Ratio 1:1						
~~~~			combination).								
	,	· · · · · · · · · · · · · · · · · · ·	.l titration x		n						
No in	dication	of chlorides	left in this sa	mple.							
<del>****</del> ********************************				<del>i i i i i i i i i i i i i i i i i i i </del>							
· ·	<del></del>		n opporter og som en til station fra til station og det til station og det til station og det til station og d	,							
<del></del>			and a state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the	pris 1200 i Millionio Allegicio Narradinale (1220). Li del Allegicio (1220) del Allegico (1220) del Allegico (		محد					
			•								

Well	Ownershi	ip: Bl	OCKER I	VATER STUDY		_ Well No	TW #14
Land	Status:	☐ Sta	te	☐ Federal	☐ Fee		
	sample f		_, 5600				
Туре	Well:	wa	er tes	t well		Depth: 61	feet.
Well	Use:						
Sampl	e Number	#2 @ 50	) '		Date Take	2-2-78	Eddie Seay
		Specific C	onducta	nce:	m/		
		Total diss	olved S	olids:	PPM.		
•			Chlo	rides:28	.4 PPM.		
			Sul	fates:	PPM.		
		Ortho-phos	hates:	V. low	Low	Med. Hig	<u>th</u>
		Su	Lfides:	None	Low [	Med. Hi	វ្វា
			*	<del></del>	······································		260)
Date .	Analized	2-13-	<sup>7</sup> 8	В	y: John W.	Runyan	
					N.M	1.0.C.C.	
		Dry hole -			Ratio 2:1 (4	4 oz sample +	8 oz water)
				.1 titration	······································	r oz sampre .	o oz watery
20 1111	Jumpic	142.0 14	. CO1 X	. r cretacton	X 2 20,4		
·	<del></del>			الادار المستقدان المستوان الم			
<del>*************************************</del>		<del></del>		<u>,</u>			
<del></del>	**************************************	1967 (19 <u>04) - 1964 (1964) (1964) (1964) (1964) (1964) (1964) (1964) (1964) (1964) (1964) (1964) (1964) (1964)</u>				الانتفارة الأكس بيسين الإنجاب المتوا	فيبيب المناسب بيدار سيبور بوينس بدائم
-	· · · · · · · · · · · · · · · · · · ·						
-				- <u>1948-1949 - 1948 - 1949 - 1949 - 1949 - 1949 - 1949 - 1949 - 1949 - 1949 - 1949 - 1949 - 1949 - 1949 - 1949</u>			

Well Ownership: BLOCKER WATER STUDY	Well No. TW #14
Land Status: State Federal	Fee
Well Location: Unit, Section 13, T 25 S -	R 37 E 41243
Sample - sand from 55'	
Type Well:	Depth:feet.
Well Use:	
Sample Number: #3 @ 40' Date	Taken: 2-2-78 Eddie Seay
Specific Conductance:m	1
Total dissolved Solids:P	PM.
Chlorides: 28.4 P	PM.
Sulfates:P	PM.
Ortho-phosphates: V. low Low	Med. High
Sulfides: None Low	Med. High
*	
Date Analized: By:	John W. Runyan
	N.M.O.C.C.
Remarks: Dry hole - no water	
sand from 40' mixed with distilled water. Ratio 2:	:1 (4 oz sample + 8 oz water)
25 ml sample = 142.0 factor x .1 titration x 2 = 28	3.4 ppm
	·

Well Ownership: BLOCKER WATER STUDY We:	11 No. TW #14
Land Status: State Federal Fee	
Well Location: Unit, Section 13 , T 25 S ~ R 37 E	41243
Sample - sand from 45'	
Type Well: Water test well Depth	n: 61 feet.
Well Use:	
Sample Number: #4 0 45' Date Taken:	2-2-78 Eddje Seav
Specific Conductance:m/	
Total dissolved Solids:PPM.	
Chlorides: 28.4 PPM.	
Sulfates:PPM.	
Ortho-phosphates: V. low Low Med.	□ <u>High</u>
Sulfides: None Low Med.	☐ <u>Hi</u> gh
*	
Date Analized: By: John W. Run	yan
N.M.O.C.	2.
Remarks: Test Hole Dry - sample from 45' mixed 2:1 distil	led water
(4 oz sample + 8 oz water)	
25 ml sample ÷ 142 factor x .1 titration x 2 = 28.4 ppm	
20 mi Sampio - Fie raccor A 11 ordination A 2 - 2011 pp.m	

Well Ownership: BLOCKER WATER STUDY	Well No. TW #15
Land Status: State Federal Fee	
Well Location: Unit $J$ , Section $13$ , $T$ $25$ $S$ - $R^{37}$ Sand sample from 50' mixed ratio 2:1	E
Type Well: water test well	
Well Use: chloride analysis of ground water	
Sample Number: #2 @ 50' Date Take	n: 2-28-78 John Runyan
Specific Conductance:m/_	
Total dissolved Solids:PPM.	
Chlorides: 735.5 PPM.	
Sulfates:PPM.	
Ortho-phosphates: V. low Low	Med. High
Sulfides: None Low	Med. High
	and the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second s
Date Analized: 3-6-78  By: John W.  N.M	Runyan .O.C.C.
Remarks:	
One oz sample + 2 oz water (÷ 2 results)	
Reddish tan sand - fine grain	
5 ml sample 710.0 x .05 ÷ 2 = 17.5 ppm	

Well Ownership: BLOCKER STUDY	Well No. TW #15
Land Status: State Federal Fee	
Well Location: Unit J, Section 13, T 25 S - R 37	E
Sand sample at 60' - mixed ratio 2:1	
Type Well: water test well	Depth: 60 feet.
Well Use: chloride analysis of ground water	
Sample Number: #3 at 60' Date Taken	: 2-28-78
Specific Conductance:m/_	
Total dissolved Solids:PPM.	
Chlorides: 735.5 PPM.	
Sulfates:PPM.	
Ortho-phosphates: V. low Low	Med. High
Sulfides: None Low	Med. High
•	
Date Analized: 3-6-78  By: John W. N.M.	Runyan
Remarks:	0.0.0.
One oz. sample + 2 oz. water (+ 2 results)	
Light tan sandstone and sand - some fine gravel	
5 ml sample = $710.0 \times 0.05 \div 2 = 17.5 \text{ ppm}$	

Well Ownership: GEORGE BLOCKER	Well No. TH-1
Land Status: State Federal Fee	
Well Location: Unit, Section_13_, T_25_S - R_3	7 E Lea County
Location on Gulf McBuffington lease (all three wells)	
Type Well:water well	
Well Use:	
Sample Number: #1 Date Taken	: 12-31-76 Geo. Blocker
Specific Conductance:m/	
Total dissolved Solids:PPM.	
Chlorides: 1335 PPM.	
Sulfates:PPM.	
Ortho-phosphates: V. low Low	Med. High
Sulfides: None Low	Med. High
Date Analized: 1-10-77  By: John W. N.M.	Runyan
	0.0.0.
Remarks:	
water derifficery containmated.	
25 ml sample = 142.0 factor x 9.4 titration = 1334.8 ppm	1 (7
De mir dampte Trate ractor X 3.4 tratacron 1004.0 ppi	1 0 1
Construction described to a construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of th	datagan mendah dan Pendaga saperpakan menjenatan pada pada dan pendepuntuan dan menendak

Well Ownership: GEORGE BLOCKER	Well No. TH-2
Land Status: State Federal Fee	<b>!</b> .
Well Location: Unit, Section 13 , T 25 S - R_	37 E Lea County
Location on Gulf McBuffington lease (all three wells)	
Type Well: water well	Depth: 100 feet.
Well Use:	
Sample Number: #2 Date Take	en: <u>12-13-76 George Blocker</u>
Specific Conductance:m/_	
Total dissolved Solids: PPM.	
Chlorides: 1761 PPM.	
Sulfates:PPM.	
Ortho-phosphates: V. low Low	Med. High
Sulfides: XX None Low	Med. High
	and the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of t
Date Analized: 1-10-77 By: John W	. Runyan
	1.0.c.c.
Remarks:	
Water definitely contaminated	
25 ml sample = 142.0 factor x 12.4 titration = 1760.8 p	opm Cl.

Well Ownersh	ip: GEORGE B	LOCKER		Well No.	TH-3
Land Status:	State	☐ Federal	Fee	•	
Well Locatio	n: Unit, Se	ection 13, T	<u>25</u> s - R <u>37</u>	E Le	a County
Location on (	Gulf McBuffingto	n Lease (all th	ree wells)	<del> </del>	
Type Well:	water well		I	Depth:	feet.
Well Use:					·
					-76 George Blocke
	Specific Conduc	tance:	m/_ <sub>2-</sub>		
	Total dissolved	Solids:	PPM.		
	Ch	lorides: 417	5 PPM.		
		ulfates:	PPM.	•	
	Ortho-phosphate	s: V. low	Low D	1ed. □H	<u>igh</u>
	Sulfide	s: XX None	Low 1	1ed. □H	<u>i</u> g <u>ħ</u>
				······································	<del>сабранув</del> івФ
Date Analize	d: <u>1-10-77</u>	Ву	John W.	Runyan	
Remarks:				ن بن ۲۰ سال باد مناسبوری ۱۰	
Water defini	tely contaminate	d	·		
-					
50 ml sample	= 71.0 x 58.8 t	itration = 4174	.8 ppm Cl.		
<del></del>					
				,	

Well Ownership: GULFMcBuffing	iton	Well No. SWD #2
Land Status: State	Federal X Fee	
Well Location: Unit J , Section	<u>13, T 25 S - R 37</u>	E <u>lea County</u>
Sample taken from blow-out in sand	from hole	
Type Well: SWD	D	epth:feet.
Well Use:		
Sample Number: #1	Date Taken:	3-11-76 Les Clements
Specific Conductance	:m/	
Total dissolved Soli	ls:PPM.	
Chlorid	es: 48,422 ppm.	
Sulfate	es:PPM.	
Ortho-phosphates:	V. low Low M	ed. High
Sulfides: [	None Low M	ed. High
Date Analized: 3-12-76	By: John W.	Runyan
	N.M.O	.c.c.
Remarks:		
Very strong hydrocarbon odor.		
Sample was taken from hole where w	ater was coming up.	
5 ml sample - titration x factor		
68.2 x 710.0 = 48,422 ppm C1.		

Well Ownership: City of Jal	Well No
Land Status: State Fed	leral X Fee
Well Location: Unit, Section	, T S - R E #20C-1-285-2
well east of old McBuffington pit on	Blocker
Type Well: abandoned water well	Depth: 111 feet.
Well Use:	
Sample Number: #1	Date Taken: 4-14-78 State Engineers
Specific Conductance:	m/
Total dissolved Solids:	PPM.
Chlorides:	12,496 PPM.
Sulfates:	PPM.
Ortho-phosphates: []V.	low Low Med. High
	me Low Med. High
	By: JOHN W. RUNYAN
	N.M.O.C.C.
Remarks:	
5 ml sample = 710.0 factor x 17.6 tit	ration = 12,496 ppm C1.
Comments of the sea of the St. St. St. St. St. St. St. St. St. St.	
gelangkan terdelan distrikturun ya sebedi sersi selah dan distrikturan perbedikan perbedikan perbedikan pengangan besas berdan pengan	
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Well O	wnership:	GEORGE	BLOCKER	- A secolity of the second second second second second second second second second second second second second	Well	No.	o de que que que que combre a quel Colligio
Land St	tatus:	State	☐ Federal	□ Fe	ee		
-	ocation: JAL WATE	P. WELL	ction, T		Σ		
		Water well		·		feet.	
	Number:_	#1		Date Tal	(en: <u>12-</u>	-2-76 By:	<u>George B</u> locker
-		tal dissolved	tance: 56 Solids: 51 lorides: 10	5 ррм.	•		
	0r	s	ulfates:s: \[ \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} \begin{aligned} alig	PPM.	1	□ <u>High</u>	
		Sulfide	s: XX None	[] Low	<u>Med.</u> [	<u>High</u>	
Date An	alized:_	12-6-76	se chlorides	3y: J <u>ohn</u> N.	nw. K M.O.C.C.	unija	₹
Remarks	: Water	r O.K. as for	as chlorides	concerned			
100 m1	sample =	35.5 factor >	3.0 titratio	n - 106.5 pp	om		
)							
Harry Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the						-manay/https://doi.org/	
		er en en en en en en en en en en en en en	Mileon — in geleichte eine Seine geber beiteilte.		A COLUMN STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREE	Andrews and the Paris Series and Marie	

Well Ownership: George Blocker	Well No
Land Status: State Federal Fee	<b>!</b>
Well Location: Unit, Section, TS - R_	E
"Gulf water well"	and the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second s
Type Well: Water well Well Use:	Depth: 89 feet.
	n: 12-2-76 By: George Blocker
Specific Conductance: 3200 m/n	by: deorge brocker
Total dissolved Solids: 2994 PPM.	
Chlorides: 2669.5 PPM.	
Sulfates:PPM.	
Ortho-phosphates: V. low Low	Med. Thigh
Sulfides: None Low	_
found distributions Control pour name to	d emissione through fireme√ so
	W. Runyan
Remarks: Water contaminated	i.o.c.c.
100 ml sample = 35.5 factor x 75.2 titration = 2669.5 p	opm C1

Ignition Loss Color SIO2  Surce (type of vell)	. 41311	Date of collection 7! -	LAS 100 RS	10-100	1/6
Tone per Acra Foot  Tone per Acra Foot  And Mg  April 74 7 9 Diam 41 Non-carbonate Hardness  The SAR PR  Actar Isval 14,5 ft  Specific Conductance  Indian Graph (meas or set)  The Graph of TA' >15  The Conductance Classes  The Conductance Classes  The Conductance Classes  The Conductance Classes  The Conductance Conductance Classes  The Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Conductance Con		Ignition LossColor Dissolved Solids:		epm	ppm
pth 74 2 90 Diam 412 Bon-carbonate Hardness No No No No No No No No No No No No No	nor G. Blickov	Calculated (Sum)	Co		
mpled after pumping hra (micromhos at 25°C) / 0 / 7 Na + K  laid GPM (meas or eat)  of coll fr. 9/r @ 74' > LS  spearance Close  mp (T) = Use OLS  soliactor A + Kus & Vindewart  semist Clayer  nate complated C/- 30-75  nacked by	apeh 74 3 90 Diam 4/2	Mon-carbonate Hardness	No ]		
page rance Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close Close C	ater level 74.5 ft  ampled after pumping hrs  fald GPM (meas or eat)	(micromhos at 25°C) / 0 / 7	Na+K		
oblector Atkins & Vindewart  sense Chavee  site completed C1-30-75  nacked by	ppearance	<u>'</u> >\S	co <sub>3</sub>		
acked by	olloctor Atkins & Vince bookse Charee	<del>-</del> .	CI F		100
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25.38.13.4119	ANALYTICAL STATEMENT -	GW <sup>COUNTY</sup> Z	ो ने	
25.37.13. 41100		LAB NO. RE	ED- 100	<del>3</del> 7/
LOCATION TH # 5	Date of collection 0/- 2	+-78		
1 1 7 7 3	Ignition LossColor	<u></u> [	epm	ppm
1 /	Dissolved Solids:	SiO2		
Source (type of well) Orld	Residue at 180°C	Fe		
omer G. Blocker	Calculated (Sum)			
	Tone per Acre Poot	Co		
Date drld //23/18 Cased to	ft Rardness as CsCO <sub>3</sub>	Mg		
DepthDiamDiam	Non-carbonate Hardness	No		
NONE	1 X4	ĸ		
Water levelft	Specific Conductance	,		
Sampled after pumping hrs	(micromhon at 25°C) 1994	Na+K		
YieldGFR (mea or eat)	·	į.	1	
Pe of cold Currelthed San		нсо3		······································
Appearance Puldedy mu	CE!	co,		
Temp ('7)Uea	·	SO4		
collector TIWright	<del></del>	CI		<u> 241</u>
Chantet EACHLYEZ	•	F.		
Date completed 01- 36-75	<del></del>	NO3		
theched by				
Outo transmitted		1	· j	

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25.37.13.34120

ANALYTICAL STATEMENT-GWOODET L & D

25.37.13.34120

LOCATION TH # 7

LOCATION TH # 7

LOCATION DISCUSSION D' - 26.79 шю. Вай 1800- 10873 € p m ppm SIOg Fe Blocker Ca Mg No ĸ Spacific Conductance No+K HCO3 co3 504 CI NO3

25.37.13.41311	ANALYTICAL STATEMENT	LAS NO. TO	EQ- 100	<u> </u>
Location TH#6	Date of collection 0/- 2 Ignition Loss Color Color		epm	ppm
Source (type of well) dold	Dissolved Solids:Residue at 180°C	\$10 <sub>2</sub>		
owner G. Blocker	Calculated (Sun)	Co		
	ft Hardness as CaCO <sub>3</sub>	Mg No		:
W AAL	1 Na	ĸ		
Nater leve:ft Sampled after pumping bre	Specific Conductance (micromios at 25°C) / 73	2 No+K		
YieldGPH (mean or eat)  Pr of coll	<del></del>	нсо3		<del> </del>
Appositance Park 15h tugues &	<del>:</del> 	50 <sub>4</sub>		ر جر
Chealet Claure =	<del></del>	E F		
Date completed 81-30-78  Checked by	<del></del> ·	NO3		

Ignition Loss Color Promotion Color Promotion Color Promotion Color Promotion Color Promotion Color Color Promotion Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Color Colo	LOCATION TH #8	Date of collection Of Feld	1978		<del></del>
Tons per Acre Poot  ats drid 1/27/28 Cosed to ft Hardness as CaCO <sub>3</sub> April 91/0 Diam 4/2 Hon-carbonate Hardness NO  Ar 91/0 Diam 4/2 Hon-carbonate Hardness NO  Atar level ft Specific Conductance  Applied after pumping hre (micromhos at 25°C) 1/1 HOO3  Coff (mass or sat)  A caf coll 1/2 5p/r @ 9/  Appearance Vye muldy  Appearance Vye muldy  Appearance The US Teel  Admist Chayez  Ata completed Ob Feb 1978  NO3	Bource (type of well) Cr/4	Dissolved Solids: Residue at 180°C	·	фри	ppm
ater level	were dried 1/27/75 Coord to fo	Rardness as CaCO3	Mg		
prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily  prearance vire mulily	ater levelft	Specific Conductance	1	<u>.</u>	
henies Chavez  F  NO <sub>3</sub>	11/	, ,	co <sub>3</sub>		
	nemies Chavez ste completed 06 Feb. 1978		F		

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5.38.13.34113	1- 27-		80-// S	<u> </u>
ocation TH#8	Date of collection		epm	ppm
, ,, ., .	Ignition tossColor	SiO,		
1	Dissolved Solids:	Fe		
ource (cype of well) Arld	Residue at 180°C			
mer Blocker	Calculated (Sum)	Co		
	Tous per Acre Poot	Mg		<u>·                                      </u>
Date drld 1/27/78 Cased to	ft Hardness as CaCO3	No		<u> </u>
DapthH2		] ĸ		<u> </u>
ne_GAL	1 H4	7		ļ
Water levelft	Specific Conductance (microshoe at 25°C) 96/	Na+K		<u> </u>
Sampled after pumpingbrs	(WICEOMERS of any			İ
Tield GPH (mas or est)		HCO3		<b></b>
re of coll_ STO ACC	<del></del>	cos		<del> </del>
Appreciance SII. newsky	<del></del>	504		6-1
1000 (T) Use	<del></del>	CI		17
Collector	<del></del>	F		<del> </del>
Chemist Clayer		NO3		- <del></del>
Date completed 61- 30- 76	<del></del>	1		-

LOCATION TH #10	Date of collection 2 - 2 -		3.7 <b>3-</b> / 0 <sub>2</sub>	<u>ט</u> ע.
, , ,	Ignition LoseColor	_	<b>e</b> pm	ppm
	Dissolved Solids:	SIOS		
Source (type of well)	Residue at 180°C	_ Fe		
om. G. Blocker	Calculated (3um)	- '	<del></del>	
	Tons per Acre Foot	_ Co		
	S Hardness as CaCO3	Mg		
Dopth	_ Non-carbonate Hardness	_No		
m gAL	I FePRPR	_ K		
Water Lavel 74, 35 to	Specific Conductance			
Sampled after pumping hre	(micrombos at 25°C) <u>94/</u>	Na+K		
YieldGPN (meas or est)				
11 of call try 52/1 0 /37	<u>&gt;</u>	нсо3		
expositioned time ley	_	CO3		
Tong (7) Use Obs	- OCC:57 1910CF	504		
collector J/ Wright		CI		6.3
Chemist LAYEZ	<del>-</del>	F		
Date completed Ole Fel. 1918	_	NO3		
Checked by	<del>.</del>			
Date transmitted	<u>-</u>		ļ	
and the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second s				

// -/	ANALYTICAL STATEMENT	LAB NO. 23	20-108	<u> 99</u>
tocation TH #9	Date of collection Ol Fell.	-/ <u>9/8</u>	6 p m	pym
, ,	Dissolved Solids:	SIO2		ļ
Source (type of well)	Residue at 180°C	Fø		
omer G. Blocker	Calculated (Sum)	i		ļ
	Tone per Acre Foot	Ca		
Date drld 1/30/78 Cased to	ft Rardonse as CaCO3	Mg		
Depth Diam 4/2	Non-carbonate Hardness	No		
VID GAL	SARPR	к		
Vator levelft	Specific Conductance			
Sampled after pumping hrs	(micromhos at 25°C)_3766	Na+K		
YieldGPH (meas or est)		-		
re or conto Clear to sl. mu		нсоз		
Appear and > trp 57/5. 6 82	<u>E' &gt;15</u>	co3		
Teca ("F) — Use O'105,	_	SO4	اور	99.3
collector Atkyns & Tecl	_	C1 ~		2/6
Charez Charez	_	F.		
Date completed <u>Ob Feb 1978</u>	_	NO.		
Checked by	_	.		i
Date transmitted	_			

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25.37. 13. 44/33 ANALYTICAL STATEMENT-GWOUNTY L-A

·		145 NO. 7.5	11/1/2	891
ocertion 174 # 11	Date of collection Z - 1 .	75		
777 11	Ignitios LossColor	_[	e p m	ppm
	Dissolved Salide:	Sio		
uzes (type of well) drld	Residue st 180°C	Fe		
ges. 3/ocher	Calculated (Sum)			
	Tone per Acre Foot	Ca		
to deld 2/2/78 could to	ft Hardness as CoCO	Mg		
peh 53: DI= 4/2		No		
	I NA SAN PH	K		
ter level ft	Specific Conductance	]		
mpled after pumping hre	(microshos at 25°C)	Na+K		
ald GPM (mean or eat)	_	_  ·		
of con ditch - curcula	Let sample	нсо.		
pearance -5/1. mully-		co,		•
+ (7) - U. Obs.		50.		
liactor /	_ DCC - 122 porch	CI		103
MILL CLAVEZ		F		
to completed 66 Feb 1972	<del></del>	NO <sub>3</sub>		
acked by	<del></del>	3		
ite transmitted		1		
ore flammatted	<del></del>	,	,	

	ANALYTICAL STATEMENT -	LAS NO. PS	<del>29-106</del>	94
ource (type of vell). And described and to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to the second to t	# Bon-carbonate Hardness PR PR PR PR PR PR PR PR PR PR PR PR PR	j	epm	ppm
ppearance Musky - 13 51H  comp (7) Use Obs  collector  chanter Chayez  cate completed Ob Feb Ula  becked by  cot granemitted	·	HCO3 CO3 SO4 CI F NO3		64

Pladal

25.37.13, 4314434 ANALYTICAL STATEMENT-	-GWEOUNTE	ea	
	LAB NO.	-108	<u>93</u>
Location TH # 3  Date of collection 2 - 2 - 1  Just Dample  Just Dample  Dissolved Solids:  Residue at 180°C  Colculated (Sum)  Tons per Acra Poot  Date deld 2/2/15 Cased to	SiO <sub>2</sub> Fe Ca Mg No K	epm	ppm
Simpled after pumping bra (atcrownou at 25°C) //9C  Field CPN (week or est)  Pt of coil Offer Alter Sample  Appearance Clear to Alt. Which f  Temp (*T) Use Use Collector Charlet Charlet Charlet Of Cell 1978  Checked by	HCO <sub>3</sub> CO <sub>3</sub> SO <sub>4</sub> CI F NO <sub>3</sub>		//2

			20- <i>108</i>	92
Location TH # 12	Date of collection R - R - 7  Ignition Loss Color		epm	ppm
1.7	Dissolved Solids;	SIO2		
Source (type of well) OV/	Residue at 180°C	Fe		
Omer Ges. Blacker	Calculated (Sum)	_		
	Tone per Acre Foot	_ co		
Date drid 2/2/18 Cased to	t Hardness as CoCO3	Mg .		
_	Non-carbonate Hardness	_No		
NONE	7. Ra	_  <b>K</b> .		
Water levelft	Specific Conductance	1 .		
Sampled after pumpinghrs	(micromhos at 25°C) / 09.5	_Na+K		
YieldGPK (meas or set)				
Pr of coll CIV culties 5 things	e-editeli-	нсоз .		
Appearance SII will day		co3		
Temp (*7)		SO4 .		
Collector	PFAMILY	CI .		<u></u>
Chemist Ayez	<b>-</b>	F.		
Data complated 06 Feb 1978	<del>-</del>	NO3 .		
hecked by	-	Ι΄.		

5,31.12.941221	ANALYTICAL STATEMENT - GW LAB NO. EMO - 10904			
	Date of collection 61 MAN.			2024
ocation THAC17			• pm	ppm
Blocker Conoun.	ignicion LossColor	-  <sub>510</sub> ·	<del></del>	
141	Pissolved Solide:	SIO <sub>2</sub>		
urce (type of volt) dild	Residue at 180°C	F• .		
	Calculated (Sum)	<b>-</b> } ·	<del></del>	
	Tone per Acre Poot	Co .		<del></del>
te drld Cased tof		Mg .		
pthDtam		No .		
· GAL	¥ FaSABPH	_ к		
ter levelft	Specific Conductance	1 .		
mplad after pumping hra	(micromhon at 25°C) 1163	Na+K		
aldGPH (mess or est)		1	ļ	
of coll Caractered 5P/	_	нсо,	1	
of cost Cival Sel.	_ <b>_</b>	co <sub>3</sub>		
+ ('r) - va. 15.	_	504		
Hector Wright	_	C1		102
enter Charte	-	F		
te completed NG Mir 75	<del>-</del>	NO.	· · · · · · · · · · · · · · · · · · ·	•
	<del>-</del>	3 -		
acked by	<b>-</b> .	}		
te transmitted			l	
25.37.13. 412333	ANALYTICAL STATEMENT -	SW LAB HO. PS	2 20- 109	103
ocation TH#16	Date of collection 12-25.	75	700	· · · · · · · · · · · · · · · · · · ·
11111 9	Ignition LossColor		e p m	ppm
	Dissolved Solids:	SiO,		
ource (type of well)	Residue at 180°C	Fe		<del></del>
mer.		' •		
	Calculated (Suz.)	_		**
	Tons per Acre Foot	Co		
Cased to		Mg		
epthDiam	•	_  No		
7	1 Na SAR pH	ĸ		<del> </del>
ster levelft	Specific Conductance	_		
umpled after pumpinghrs	(Micromhos at 25°C) 1025	Na+K		
eldGPM (mess or est)	,	1		
of coll CINCICALE SKIUP	<u>Le</u>	нсо,		
pearance Patel 186 dig news	ckiness	co,		
TO (°7) - Use 0/15.	_	so <sub>4</sub>		
ilector NJ 11/21/26	_	CI		71
enintCliavez	_	F		
	<del></del>	1" -		

Date completed 16 Mir 75

NO<sup>2</sup>

5.37.13. 413134	ANALYTICAL STATEMENT - GWOWTY Led				
		LAN NO. ES	20- 169	005	
LOCAL TH # 18	Date of collection CI MA:	. 1976			
	Ignition LossColor		e p m	ppm	
1 . /	Dissolved Solids:	SIO2	·		
Source (type of well) drld	Residue et 180°C	Fe			
Ovner	Calculated (5um)	i			
	Tous per Acre Foot	Ca			
Date drldCased to	ft Hardness as CaCO3	Мд			
DepthD! em	Non-carbonate Hardness	Na			
var Cil		к			
Weter levelft	Specific Conductance	. I.			
Sampled after pumping hrs	(micronhos at 25°C) SS6	_ No + K			
Tield GPH (meas or est)	6.7. C				
re of con dot to after just	ton /hr.	нс0 <sub>3</sub>			
Appearance Clies		co3		•	
Imp ("1) Use 0.65.		SO4			
collector . T. I. Wright		CI		<u>څرمي</u>	
Chemist Clarez		F		· · · · · · · · · · · · · · · · · · ·	
Chemist Charz  Date completed Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz  Charz		NO3		<del></del>	
Checked by	<del></del>			-	
Date transmitted		ł	- [		

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ANALYTICAL STATEMENT - GWOWTH Lend

ocetion :	Dete of collection	7 :		
Blocker Continue.	Ignition LossColor		<b>e</b> pm	ppm
Blocker Contin.	Dissolved Solids:	SIO		
erce (type of well) doctd	Residue et 180°C	fe _		
47	Calculated (Sum)			
	Tous per Acre 7001	Cu _		
e drldCeaed to		Мg		
10h 7/2 365 Di=	Non-carbonate Hardness	No _		
<u> </u>		K _		
or 10051 72 14 11	Spacific Conductance	_ } -		
pled after pumpinghre	(micromhos at 25°C) 1045	No+K		
18GPH (mess or est)		1		
of coll Tr sile 6 75		HC03		
earance Chica to Sli-	10001-1	co,		
v (7)	<del></del>	504		
lector Budley & Tech	<del></del>	CI ,		
mist Cliver		F	<del></del>	
te completed 1/ Nin 78		NO3 -		
ocked by	<del></del>	-		
te transmitted		1		

5.37.13, 323232	ANALYTICAL STATEMENT - GWOUNTY			
			10-119	116
Location - H #-19	Date of collection CZ Mi	AN 1476	<del></del>	<u> </u>
Blocker Continue	TATE Ignition Loss Color	[	epm	ppm
<del>-</del>	Dissolved Solids:	SIO2		
ource (type of well) Charles	Residue at 180°C	Fo		
Wear	Calculated (Sum)			
	Tone per Acre Foot			
ate drldCased to	ft Hardness as CaCCs	Мо		
epthDiam	Mon-carbonate Hardness	No		
g AL	I MaSARpR	K		
ster levelft	Specific Conductance			<del></del>
empled after pumpingbre	(micromhos at 25°C) 299	Z No+K		
feldGPH (meas or set)				<del></del> -
of coll		нсо		
ppearance (King		003		
P (P) Bis Obs		1 ~	<del></del>	<del></del>
ollectorTICC	— <del>—</del>	SO4	5000	791
eniac Chievez	<del></del>	101-		133
to completed 1/ Mer 18		NO.		/ = /
ecked by	_	NO3 -		
te transmitted	<del>_</del>			

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George Blocker Water Contamination
  study
   Holo # 4
  Hole # 10
        21 sandy clay
 ٥
  20 open
   0
  (abandoned well)
  66 organic & inorganic depris
 2
        27 caliebs
   20
   68
  71 sandy clay
 27
        29 sand
   71
  74 gravel
 29
        35 sandy clay
   74
        54 annd W/sendy clay
  96 sandy clay & gravel
 35
   96
  98 red clay
 54
        56 sandy clay & gravel
   08 f
  137 sandy clay & sandstone
 56
        60 red clay
  Layers
  140 red clay
   137
    Hole # 5
   Hèle # 11
 0
        3 sand, sandy clay
 3
        16 caliche
  0
  1
  surface
        42 caliche & sand layers
  1
  28
  caliche
 16
  28
 42
        61 red shale
  39
  sand with gravel
  XUXUX
 61
        72 sand & gravel
   39
  45
  send & gravel
 72
        75 red clay
   45
  55
  red clay
     Hole # 6
   Nole # 12
        4+
            send * sandy clay
  0
  3.
  sand
 4}
        34
            caliche, sand, sandy clay
  2
  26
  caliche
 34
        62
            sand & sandatone
  26
  49
  sand & condstone
        87
            sand & gravel
 62
  49
  60
  sand & gravel
        90
            red clay
87
  60
  70
  red clay
     Mele # 7
   Hole # 13
        3
            อยาโลยe Band
  0
   sand, sandy clay
 3
        25
            caliche & sand layers
  7
  34 caliche & sand layers
        62 sand A sandatone
 28
  34
  51 sand & sandstone
        80
            gend with gravel
 62
  51
  61 red shale
80
        OQ
            quartzite
        57
  61
  120 sand & gravel
90
            sandy clay & gravel
 97
       100
            sand A gravel
  120
  145 sandy clay & gravel
  145
 100
       117
            red clay & gravel layers
  147 red sandatome
            clay & sandstone layers
 117
       126
  Nole # 14
       128
            red clay
 126
   0
  sandy clay
     Hole #
   2
   23 caliche & sand
        2
 ٥
             surface soil
   23
   44 sand & sandatone
       27
             ealiche & sand
   44
       72
   60 aand & gravel with
             sand & sandstone
       76
 72
             sandy clay
  sandy clay stringers
 76
       63
             quartzite
  . 60
   61 red clay
       90
 83
             sandy olay
       90
 90
             mand & gravel
             sandy clay & gravel
      108
 99
108
      110
             red clay
    Mole # 9
 0
        4
             surface soil
             caliche & sand
       30
             send & sandstone
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Copy to Oil Conservation Comm. Copy to State Engineers office.

30

75

82

00

97

75

82

90

07

100

quartzite

red clay

sandy clay & gravel

gravel

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Louises Advantage
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65.	,	Louises A. J. J. 1905
#¥	George	Blocker water study monved Peb.28, Mar. 2, 19
Hole	# 15	•
0	21	surface
21	23	ealicke
23	32	sand & sandstone
32	38	sand
38	44	red sandy clay
44	61	sand & gravel
61	64	pandy slay
64	68	red elay
Mole	#16	
0	2	surface .
2		caliche control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control contro
24	38	sand & sandstone
38	44	red sandy elay
44	64	sand & gravel
64	66	red elay
Hold	a # 17	
0	4	Band
4	51	ealiehe
21	31	gand & sandstone
31	41	eand, gravel, sandy clay
41	43	quartzite
48	80	sand & gravel
80	56	red sandy clay
\$6	57	red clay in the same that the same
Hele	e # 18	- 1 (1) (1) (1) (1) (1) (1) (1) (1) (1) (
Ð	8	eand & sandy clay
8	<b>. 22</b>	caliche
22	46	sand & sandstope
46	90	eand & gravel
90	95	red clay & gravel
98	98	quartzite
Mel	# 19	A Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Comp
•	4	surface
4	24	extrana
24	61	sand & sandstone
61	78	sand & gravel, sandy elay layers
78 92	92 95	sauga ejaa Beeg e Ergaer
92 95	104	quartzite
104	103	red sandy clay
108	110	red elay

