



February 10, 2012

State of Colorado Oil & Gas Commission  
1120 Lincoln Street, Suite 801  
Denver, Colorado 80203

RE: Application to convert  
Arthur Sindt #5 to disposal well

Citation Oil & Gas Corp. proposes to convert the current shut in Arthur Sindt #5 to a salt water disposal well in the D, J and O Sand formations of the West Padroni Field, Logan County, Colorado. The well is currently with 2 7/8" tubing set at 4891.60' the surface casing is set at 284' and cemented to surface with 250 sacks cement. The production casing is set at 5150' and cemented up hole with 150 sacks cement with a calculated top of cement at 4145'.

Name and depth to bottom of all underground sources of drinking water which may be affected by proposed operation. The Ogallala aquifer is known to occur at a depth of 300-430 feet in this area, the Dakota is found at a depth of 1594-1850', the Cheyenne is found at depth of 1877-2080' in this area.

Type of fluid to be injected into the Arthur Sindt #5 will be produced water from current or proposed producing wells within the West Padroni Field. (See exhibit for water analysis)

Citation requests a Min Volume 250 BWIPD and a Max Volume 5000 BWIPD,  
Min Pressure 100 psi and a Maximum pressure of 1500 psi

Included in this application are the following:

Form 31 original and one copy

Form 26 original

Analysis of injection water

Analysis of injection zone water

Resistivity log strip

Surface Owners Agreement

Map and List of Surface and Mineral Owners within ¼ Mile Radius

Affidavit of Mailing and Notice to Surface Owners, Mineral Owners

Remedial Correction plan for wells: The plugged well within the ¼ mile area will be evaluated to see if they are plugged properly.

Plat ¼ Mile Area of Review Oil/Gas Wells

Plat ½ Mile Radius with List of Oil/Gas Wells and well information on each well along with the names and depths of formations producing, having produced or to be injected

Oil & Gas Lease covering the well location

Surface Facility Diagram

Form 33

Wellbore Diagram current and proposed

Well location plat

Form 4 Sundry with Technical page and proposed injection program and operation

History of Well log and Sundries

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Aquifer Exemption Statement for the D – J and O sand

Copy of application to add J sand

7 day notice letter to surface owner

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State of Colorado  
**Oil and Gas Conservation Commission**



FOR OGCC USE ONLY

1120 Lincoln Street, Suite 801, Denver, Colorado 80203 (303)894-2100 Fax:(303)894-2109

**UNDERGROUND INJECTION FORMATION PERMIT APPLICATION**

1. Submit original and one copy of this form.
2. If data on this form is estimated, indicate as such.
3. Attachments – see checklist and explanation of attachments.
4. Aquifer exemption is required for all injection formations with water quality <10,000 TDS (Rule 322B). Immediately contact the Commission for further requirements if the total dissolved solids (TDS) as determined by water analysis for the injection zone is less than 10,000 ppm.
5. Attach a copy of the certified receipt to each notice to surface and mineral owner(s) or submit a sample copy of the notice and an affidavit of mailing or delivery with names and addresses of those notified. Each person notified shall be specified as either a surface or mineral owner as defined by C.R.S. 34-60-103(7).

**Complete the Attachment Checklist**

Oper OGCC

Form 31 Original & 1 Copy	✓
Analysis fo Injection Zone Water	✓
Analysis of Injection Water	✓
Proposed Injection Program	✓
Resistivity or Induction Log	✓
Cement Bond Log	
Surface or Salt Water Displ Agrmt	
Notice to Surface/Mineral Owners	✓
Remedial Correction Plan for Wells	✓
Map Oil/Water Wells w/in 1/4 Mile	✓
List Oil/Gas Wells w/in 1/2 Mile	✓
Map Surface Owners w/in 1/4 Mile	✓
List Surface Owners w/in 1/4 Mile	✓
Map Mineral Owners w/in 1/4 Mile	✓
List Mineral Owners w/in 1/4 Mile	✓
Surface Facility Diagram	✓
Wellbore Diagram	✓
If Commercial Facility, Description of Ops & Area Served	
Unit Area Plat	✓

Project Name: Arthur Sindt #5 Project Location: SW 31-10N-52W 6th PM  
 Project Type:  Enhanced Recovery  Disposal  Simultaneous Disposal  
 Single or Multiple Well Facility?  Single  Multiple  
 IF UNIT OPERATIONS, ATTACH PLAT SHOWING UNIT AREA  
 County: Logan Field Name and Number: West Padroni

OGCC Operator Number: 17180  
 Name of Operator: Citation Oil & Gas Corp  
 Address: P.O. Box 690688  
 City: Houston State: TX Zip: 77269

Contact Name and Telephone:  
Nathania Naftaly  
 No: 281-891-1570  
 Fax: 281-580-2168

Injection Fluid Type:  Produced Water  Natural Gas  CO<sub>2</sub>  Drilling Fluids  
 Exempt Gas Plant Waste  Used Workover Fluids  Other Fluids (describe): \_\_\_\_\_  
 Commercial Facility?  Yes  No  
 If Yes, describe area of operation and types of fluids to be injected at this facility:

**PROPOSED INJECTION FORMATIONS**

FORMATION A (Name): D-Sand, J-Sand, O-Sand Porosity: 20%  
 Formation TDS: \_\_\_\_\_ Frac Gradient: \_\_\_\_\_ psi/ft Permeability: 500 md  
 Proposed Stimulation Program:  Acid  Frac Treatment  None  
 FORMATION B (Name): \_\_\_\_\_ Porosity: \_\_\_\_\_  
 Formation TDS: \_\_\_\_\_ Frac Gradient: \_\_\_\_\_ psi/ft Permeability: \_\_\_\_\_  
 Proposed Stimulation Program:  Acid  Frac Treatment  None

**Anticipated Project Operating Conditions**

Under normal operating conditions, estimated fluid injection rates and pressures:  
 FOR WATER: A minimum of 250 bbls/day @ 100 psi to a maximum of 5000 bbls/day @ 1500 psi.  
 FOR GAS: A minimum of \_\_\_\_\_ mcf/day @ \_\_\_\_\_ psi to a maximum of \_\_\_\_\_ bbls/day @ \_\_\_\_\_ psi.

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct, and complete.

Print Name: Nathania Naftaly Signed: Nathania Naftaly  
 Title: Permitting Analyst III Date: 2/4/2012

OGCC Approved: \_\_\_\_\_ Title: \_\_\_\_\_ Date: \_\_\_\_\_

Order No: \_\_\_\_\_  
 CONDITIONS OF APPROVAL, IF ANY:

**UIC FACILITY NO:** \_\_\_\_\_

State of Colorado  
**Oil and Gas Conservation Commission**



1120 Lincoln Street, Suite 801, Denver, Colorado 80203 (303)894-2100 Fax:(303)894-2109

FOR OGCC USE ONLY

**SOURCE OF PRODUCED WATER FOR DISPOSAL**

This form must be completed for any new disposal site and for any change in sources of produced water for an existing disposal site.

**Complete the Attachment Checklist**

OGCC Operator Number: <u>17180</u>	Contact Name and Telephone: <u>Nathania Naftaly</u>
Name of Operator: <u>Citation Oil &amp; Gas Corp.</u>	No: <u>281-891-1570</u>
Address: <u>P.O. Box 690688</u>	Fax: <u>281-580-2168</u>
City: <u>Houston</u> State: <u>TX</u> Zip: <u>77269</u>	

	Oper	OGCC
Chemical Analysis of fluid		

OGCC Disposal Facility Number: \_\_\_\_\_

Operator's Disposal Facility Name: Sindt Operator's Disposal Facility Number: \_\_\_\_\_

Location (QtrQtr, Sec, Twp, Rng, Meridian): SW 31-10-52W

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ County: \_\_\_\_\_

If more space is required, attach additional sheet.

**Add Source:** OGCC Lease No: \_\_\_\_\_ API No: 05-075-66603 Well Name & No: Arthur Sindt 4

Operator Name: Citation Oil & Gas Corp. Operator No: 17180

**Delete Source:** Location: QtrQtr: NE/NE Section: 7 Township: 9N Range: 52W Producing Formation: \_\_\_\_\_

Analysis Attached?  Yes  No Transported to disposal site via:  Pipeline  Truck TDS: 7544

**Add Source:** OGCC Lease No: \_\_\_\_\_ API No: 05075-06675 Well Name & No: Arthur Sindt 8

Operator Name: Citation Oil & Gas Corp. Operator No: 17180

**Delete Source:** Location: QtrQtr: NE/SW Section: 31 Township: 10N Range: 52W Producing Formation: \_\_\_\_\_

Analysis Attached?  Yes  No Transported to disposal site via:  Pipeline  Truck TDS: 6965

**Add Source:** OGCC Lease No: \_\_\_\_\_ API No: 05-075-08596 Well Name & No: Arthur Sindt 10

Operator Name: Citation Oil & Gas Corp. Operator No: 17180

**Delete Source:** Location: QtrQtr: SW/SE Section: 6 Township: 9N Range: 52W Producing Formation: \_\_\_\_\_

Analysis Attached?  Yes  No Transported to disposal site via:  Pipeline  Truck TDS: 8323

**Add Source:** OGCC Lease No: \_\_\_\_\_ API No: 05-075-09340 Well Name & No: Arthur Sindt 13

Operator Name: Citation Oil & Gas Corp. Operator No: 17180

**Delete Source:** Location: QtrQtr: SE/SW Section: 31 Township: 10N Range: 52W Producing Formation: \_\_\_\_\_

Analysis Attached?  Yes  No Transported to disposal site via:  Pipeline  Truck TDS: 6646

**Add Source:** OGCC Lease No: \_\_\_\_\_ API No: 05-075-09370 Well Name & No: Arthur Sindt 14-H

Operator Name: Citation Oil & Gas Corp. Operator No: 17180

**Delete Source:** Location: QtrQtr: NE/SW Section: \_\_\_\_\_ Township: \_\_\_\_\_ Range: \_\_\_\_\_ Producing Formation: \_\_\_\_\_

Analysis Attached?  Yes  No Transported to disposal site via:  Pipeline  Truck TDS: 8062

**Add Source:** OGCC Lease No: \_\_\_\_\_ API No: 05-075-09333 Well Name & No: Fluarty 1

Operator Name: Citation Oil & Gas Corp. Operator No: 17180

**Delete Source:** Location: QtrQtr: NW/SE Section: 6 Township: 9N Range: 52W Producing Formation: \_\_\_\_\_

Analysis Attached?  Yes  No Transported to disposal site via:  Pipeline  Truck TDS: 8269

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct, and complete.

Print Name: Nathania Naftaly Signed: Nathania Naftaly

Title: Permitting Analyst III Date: 2/3/2012

OGCC Approved: \_\_\_\_\_ Title: \_\_\_\_\_ Date: \_\_\_\_\_

CONDITIONS OF APPROVAL, IF ANY:



# Water Analysis Report

12/8/2011

Address:

Customer: Citation Oil & Gas  
 Attention: Herschel Kennedy

Lease: Sindt  
 Formation:  
 Salesman: Randy Tipton

CC: Bob Rogers

Target Name: Sindt 8

Sample Point: Sindt 8

Sample Date: 11/15/2011

Test Date: 11/30/2011

### Water Analysis(mg/L)

Calcium	128
Magnesium	51
Barium	
Strontium	
Sodium(calc.)	2172
Bicarbonate Alkalinity	2113
Sulfate	16
Chloride	2485
Resistivity	0.9189

### Appended Data(mg/L)

CO2	167
H2S	4.5
Iron	0
Oxygen	
Manganese	

### Physical Properties

Ionic Strength(calc.)	0.11
pH(calc.)	
Temperature(°F)	135
Pressure(psia)	25
Density	8.37

### Additional Data

Specific Gravity	1.00
Total Dissolved Solids(Mg/L)	6965
Total Hardness(CaCO3 Eq Mg/)	529

Dew Point	
Lead	
Zinc	

### Calcite Calculation Information

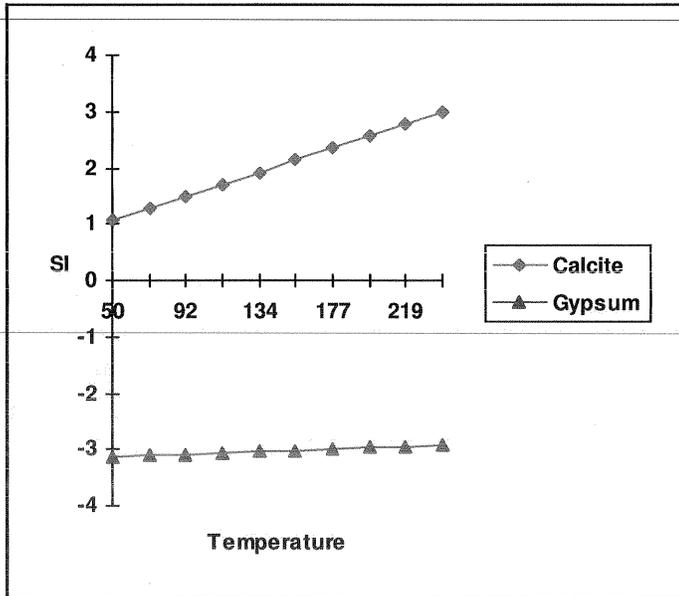
Calculation Method	Value
Known pH	8.00

Remarks:

### SI & PTB Results

Scale Type	SI	PTB
Calcite (Calcium Carbonate)	1.93	110.30
Gypsum (Calcium Sulfate)	-3.04	
Hemihydrate (Calcium Sulfate)	-2.90	
Anhydrite (Calcium Sulfate)	-2.98	
Barite (Barium Sulfate)		
Celestite (Strontium Sulfate)		

### Saturation Indices



### Saturation Index Data Points

	50	71	92	113	134	156	177	198	219	240
Calcite	1.08	1.29	1.51	1.72	1.93	2.14	2.35	2.57	2.78	3.00
Gypsum	-3.13	-3.10	-3.08	-3.06	-3.04	-3.02	-2.99	-2.97	-2.95	-2.93

Lab Tech.: Linda Poljka



# Water Analysis Report

12/8/2011

Address:

Customer: Citation Oil & Gas  
 Attention: Herschel Kennedy

Lease: Sindt  
 Formation:  
 Salesman: Randy Tipton

CC: Bob Rogers

Target Name: Sindt 10

Sample Point: Sindt 10

Sample Date: 11/15/2011

Test Date: 11/30/2011

### Water Analysis(mg/L)

Calcium	132
Magnesium	29
Barium	
Strontium	
Sodium(calc.)	2706
Bicarbonate Alkalinity	2294
Sulfate	10
Chloride	3151
Resistivity	0.7690

### Appended Data(mg/L)

CO2	176
H2S	4
Iron	1
Oxygen	
Manganese	

### Physical Properties

Ionic Strength(calc.)	0.13
pH(calc.)	
Temperature(°F)	125
Pressure(psia)	25
Density	8.38

### Additional Data

Specific Gravity	1.01
Total Dissolved Solids(Mg/L)	8323
Total Hardness(CaCO3 Eq Mg/	449

Dew Point	
Lead	
Zinc	

### Calcite Calculation Information

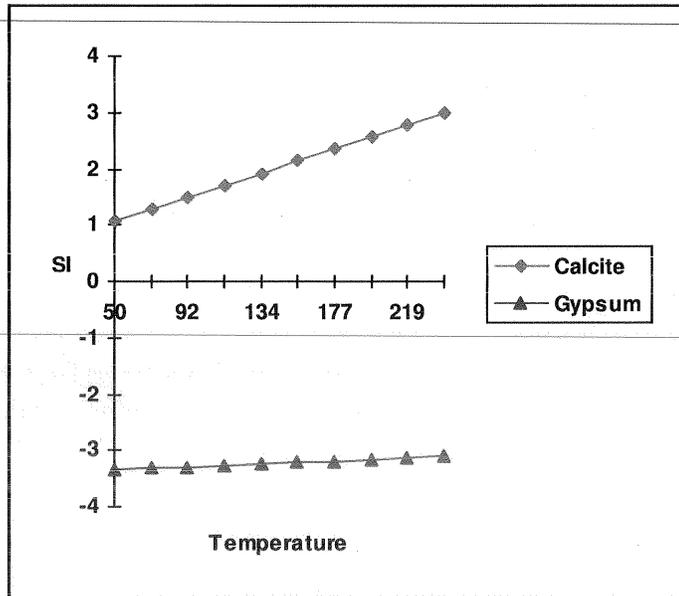
Calculation Method	Value
Known pH	8.00

Remarks:

### SI & PTB Results

Scale Type	SI	PTB
Calcite (Calcium Carbonate)	1.83	113.40
Gypsum (Calcium Sulfate)	-3.25	
Hemihydrate (Calcium Sulfate)	-3.11	
Anhydrite (Calcium Sulfate)	-3.26	
Barite (Barium Sulfate)		
Celestite (Strontium Sulfate)		

### Saturation Indices



### Saturation Index Data Points

	50	71	92	113	134	156	177	198	219	240
Calcite	1.08	1.29	1.50	1.71	1.93	2.14	2.35	2.56	2.78	2.99
Gypsum	-3.33	-3.31	-3.29	-3.26	-3.24	-3.21	-3.19	-3.16	-3.14	-3.11

Lab Tech.: Linda Poljka



# Water Analysis Report

12/8/2011

Address:

Customer: Citation Oil & Gas  
 Attention: Herschel Kennedy

Lease: Sindt  
 Formation:  
 Salesman: Randy Tipton

CC: Bob Rogers

Target Name: Sindt 13

Sample Point: Sindt 13

Sample Date: 11/15/2011

Test Date: 11/30/2011

### Water Analysis(mg/L)

Calcium	96
Magnesium	44
Barium	
Strontium	
Sodium(calc.)	2083
Bicarbonate Alkalinity	2172
Sulfate	8
Chloride	2242
Resistivity	0.9631

### Appended Data(mg/L)

CO2	194
H2S	3
Iron	1
Oxygen	
Manganese	

### Physical Properties

Ionic Strength(calc.)	0.10
pH(calc.)	
Temperature(°F)	130
Pressure(psia)	25
Density	8.37

### Additional Data

Specific Gravity	1.00
Total Dissolved Solids(Mg/L)	6646
Total Hardness(CaCO3 Eq Mg/	420

Dew Point	
Lead	
Zinc	

### Calcite Calculation Information

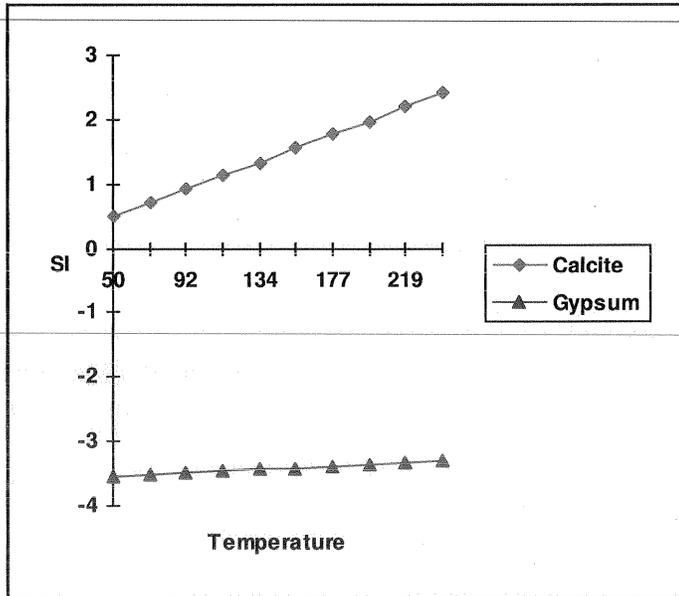
Calculation Method	Value
Known pH	7.50

Remarks:

### SI & PTB Results

Scale Type	SI	PTB
Calcite (Calcium Carbonate)	1.30	79.20
Gypsum (Calcium Sulfate)	-3.44	
Hemihydrate (Calcium Sulfate)	-3.29	
Anhydrite (Calcium Sulfate)	-3.41	
Barite (Barium Sulfate)		
Celestite (Strontium Sulfate)		

### Saturation Indices



### Saturation Index Data Points

	50	71	92	113	134	156	177	198	219	240
Calcite	0.50	0.71	0.92	1.13	1.34	1.56	1.77	1.98	2.20	2.41
Gypsum	-3.53	-3.51	-3.48	-3.46	-3.43	-3.41	-3.38	-3.36	-3.33	-3.31

Lab Tech.: Linda Poljka



# Water Analysis Report

12/8/2011

Address:

**Customer:** Citation Oil & Gas  
**Attention:** Herschel Kennedy

**Lease:** Sindt  
**Formation:**  
**Salesman:** Randy Tipton

CC: Bob Rogers

Target Name: Sindt 14-H

Sample Point: Sindt 14-H

Sample Date: 11/15/2011

Test Date: 11/30/2011

### Water Analysis(mg/L)

Calcium	128
Magnesium	56
Barium	
Strontium	
Sodium(calc.)	2577
Bicarbonate Alkalinity	2172
Sulfate	98
Chloride	3030
Resistivity	0.7939

### Appended Data(mg/L)

CO2	185
H2S	3
Iron	1
Oxygen	
Manganese	

### Physical Properties

Ionic Strength(calc.)	0.13
pH(calc.)	
Temperature(°F)	85
Pressure(psia)	25
Density	8.38

### Additional Data

Specific Gravity	1.01
Total Dissolved Solids(Mg/L)	8062
Total Hardness(CaCO3 Eq Mg/)	550

Dew Point	
Lead	
Zinc	

### Calcite Calculation Information

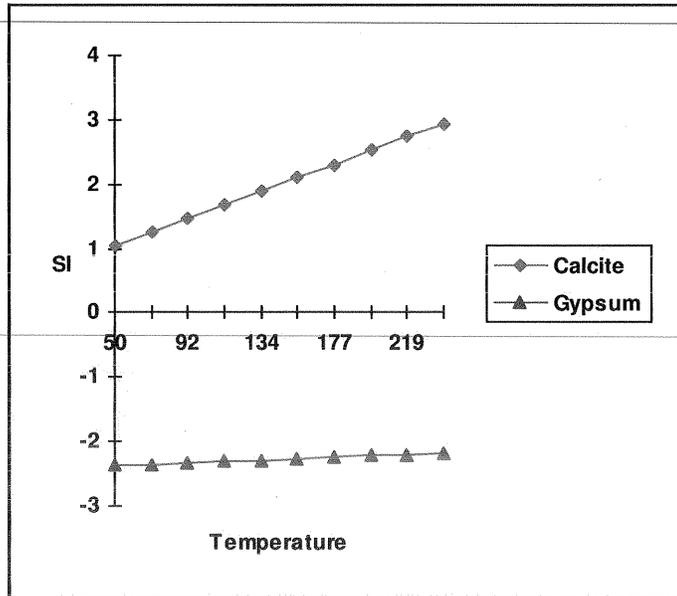
Calculation Method	Value
Known pH	8.00

Remarks:

### SI & PTB Results

Scale Type	SI	PTB
Calcite (Calcium Carbonate)	1.39	106.50
Gypsum (Calcium Sulfate)	-2.33	
Hemihydrate (Calcium Sulfate)	-2.15	
Anhydrite (Calcium Sulfate)	-2.62	
Barite (Barium Sulfate)		
Celestite (Strontium Sulfate)		

### Saturation Indices



### Saturation Index Data Points

	50	71	92	113	134	156	177	198	219	240
<b>Calcite</b>	1.04	1.25	1.46	1.68	1.89	2.10	2.31	2.53	2.74	2.95
<b>Gypsum</b>	-2.37	-2.35	-2.33	-2.31	-2.29	-2.26	-2.24	-2.22	-2.20	-2.18

Lab Tech.: *Sandra Poljka*



# Water Analysis Report

12/8/2011

Address:

**Customer:** Citation Oil & Gas  
**Attention:** Herschel Kennedy

**Lease:** Fluharty  
**Formation:**  
**Salesman:** Randy Tipton

CC: Bob Rogers

Target Name: Fluharty 1

Sample Point: Fluharty 1

Sample Date: 11/15/2011

Test Date: 11/30/2011

**Water Analysis(mg/L)**

Calcium	104
Magnesium	51
Barium	
Strontium	
Sodium(calc.)	2686
Bicarbonate Alkalinity	2264
Sulfate	12
Chloride	3151
Resistivity	0.7741

**Appended Data(mg/L)**

CO2	220
H2S	5
Iron	1
Oxygen	
Manganese	

**Physical Properties**

Ionic Strength(calc.)	0.13
pH(calc.)	
Temperature(°F)	120
Pressure(psia)	25
Density	8.38

**Additional Data**

Specific Gravity	1.01
Total Dissolved Solids(Mg/L)	8269
Total Hardness(CaCO3 Eq Mg/)	469

Dew Point	
Lead	
Zinc	

**Calcite Calculation Information**

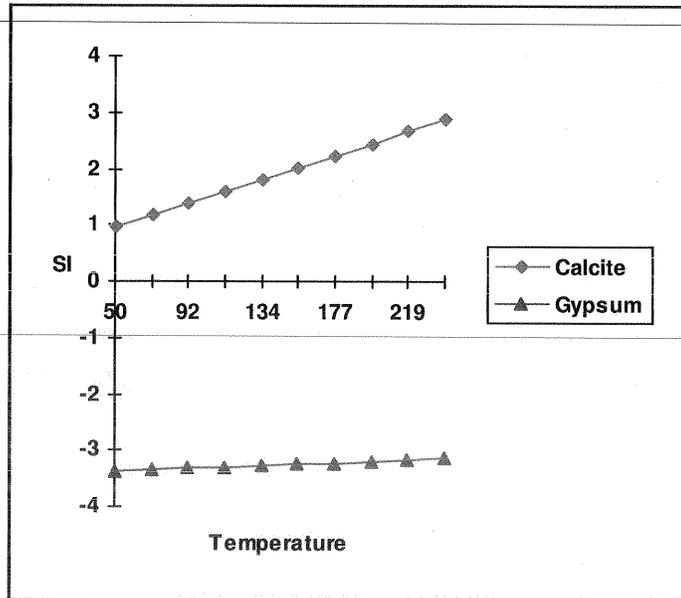
Calculation Method	Value
Known pH	8.00

Remarks:

**SI & PTB Results**

Scale Type	SI	PTB
Calcite (Calcium Carbonate)	1.67	88.70
Gypsum (Calcium Sulfate)	-3.28	
Hemihydrate (Calcium Sulfate)	-3.14	
Anhydrite (Calcium Sulfate)	-3.32	
Barite (Barium Sulfate)		
Celestite (Strontium Sulfate)		

**Saturation Indices**



**Saturation Index Data Points**

	50	71	92	113	134	156	177	198	219	240
<b>Calcite</b>	0.97	1.18	1.39	1.60	1.82	2.03	2.24	2.45	2.67	2.88
<b>Gypsum</b>	-3.36	-3.34	-3.31	-3.29	-3.27	-3.24	-3.22	-3.19	-3.17	-3.14



**Convert Well To Salt Water Disposal  
Arthur Sindt #5  
West Padroni Field  
Logan County, Colorado  
(September 15, 2011)**

**OBJECTIVE:**

CONVERT THE ARTHUR SINDT #5 SU PRODUCER TO SALT WATER DISPOSAL WELL TO INCREASE FIELD DISPOSAL CAPACITY

**EXISTING CONDITION:**

WELL IS CURRENTLY SHUT-IN AS UNECONOMICAL TO RETURN TO PRODUCTION

**PROPOSED PROCEDURE:**

- ✓ ± 4612' 2 7/8" injection tbg string.
- ✓ 5 1/2" x 2 7/8" injection packer is required for the conversion.
- ✓ Recover ESP in well for repair and reconditioning.

PERFORATIONS			
	D-Sand	J-Sand	O-Sand
Current	-	-	5096-5108'
Proposed	4712-4736'	4830-4845'	5096-5108', 5110-5130'

1. MIRU Spooler. MIRU SU. TOO H w/ 158 jts 2 7/8" tbg & 179 stage TD 980 pump, seal section, 80 Hp motor, and spool ESP cable. Send ESP and cable for reconditioning and repair. Lay down 2 7/8" production tbg string.
2. PU & TIH w/ 2 7/8" injection tbg to tag PBT D (~5130'). Circulate hole clean. TOO H.
3. PU 2 7/8" x 5 1/2" pkr & TIH w/ ± 4612' 2 7/8" injection tbg and pkr. Set pkr @ ± 4612' load backside and pressure test to 1000# for 10 minutes w/o loss. If test good proceed to next step; otherwise consult w/ engineer for a new procedure. TOO H w/ tbg and pkr. Stand tbg and pkr.

4. MIRU WL. TIH w/ CCL, GR, CBL and CSG inspection tool. Log and inspect from PBTD'-surf. Send logs to Houston Central Region Engineering Office for inspection.
  5. RU perforating guns. RIH w/ 4" expendable 36 gram charges 4 jspf 36 gram charges & 90° phasing gun. Correlate w/ Schlumberger Induction-Electric Log (1/29/1961) and perforate D-Sand 4712'-36', J-Sand 4830-45', and O-Sand 5110-PBTD'. RDMO WL.
  6. PU & TIH w/ 148 jts 2 7/8" injection tbgs, 5 1/2" Arrowset prk, 2 7/8" "F" nipple, 2 7/8 10' tbg sub, and "R" Nipple. Set prk @ ± 4612' (<100' from top injection perms). RDMO SU.
  7. Load backside and pressure test to state permitted pressure, MIT w/ COGCC representative on site. If MIT is good proceed to next step; otherwise consult w/ engineer for a new procedure.
  8. Hook up well to water injection line and begin injection. Monitor rates and pressure for stimulation.
- 
- 
-



# Water Analysis Report

12/8/2011

Address:

Customer: Citation Oil & Gas  
 Attention: Herschel Kennedy

Lease: Sindt  
 Formation:  
 Salesman: Randy Tipton

CC: Bob Rogers

Target Name: Snidt 4

Sample Point: Snidt 4

Sample Date: 11/15/2011

Test Date: 11/30/2011

### Water Analysis(mg/L)

Calcium	92
Magnesium	49
Barium	
Strontium	
Sodium(calc.)	2463
Bicarbonate Alkalinity	1952
Sulfate	1
Chloride	2969
Resistivity	0.8504

### Appended Data(mg/L)

CO2	246
H2S	4
Iron	18
Oxygen	
Manganese	

### Physical Properties

Ionic Strength(calc.)	0.12
pH(calc.)	
Temperature(°F)	125
Pressure(psia)	25
Density	8.37

### Additional Data

Specific Gravity	1.01
Total Dissolved Solids(Mg/L)	7544
Total Hardness(CaCO3 Eq Mg/)	431

Dew Point	
Lead	
Zinc	

### Calcite Calculation Information

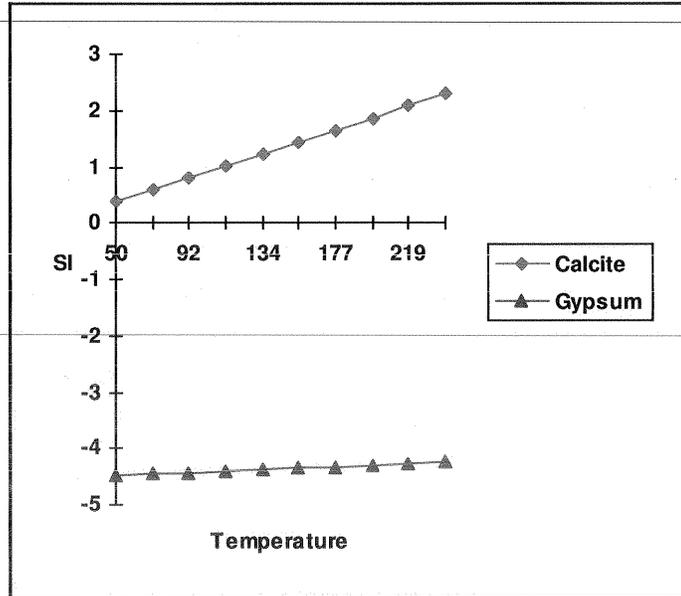
Calculation Method	Value
Known pH	7.50

Remarks:

### SI & PTB Results

Scale Type	SI	PTB
Calcite (Calcium Carbonate)	1.13	73.70
Gypsum (Calcium Sulfate)	-4.39	
Hemihydrate (Calcium Sulfate)	-4.25	
Anhydrite (Calcium Sulfate)	-4.40	
Barite (Barium Sulfate)		
Celestite (Strontium Sulfate)		

### Saturation Indices



### Saturation Index Data Points

	50	71	92	113	134	156	177	198	219	240
Calcite	0.38	0.59	0.80	1.01	1.22	1.44	1.65	1.86	2.08	2.29
Gypsum	-4.48	-4.45	-4.43	-4.40	-4.38	-4.35	-4.33	-4.30	-4.28	-4.25

Lab Tech.: Linda Poljka

CITATION OIL & GAS CORP.  
ARTHUR SINDT 5  
SW 31-10N-52W  
Logan County, Colorado

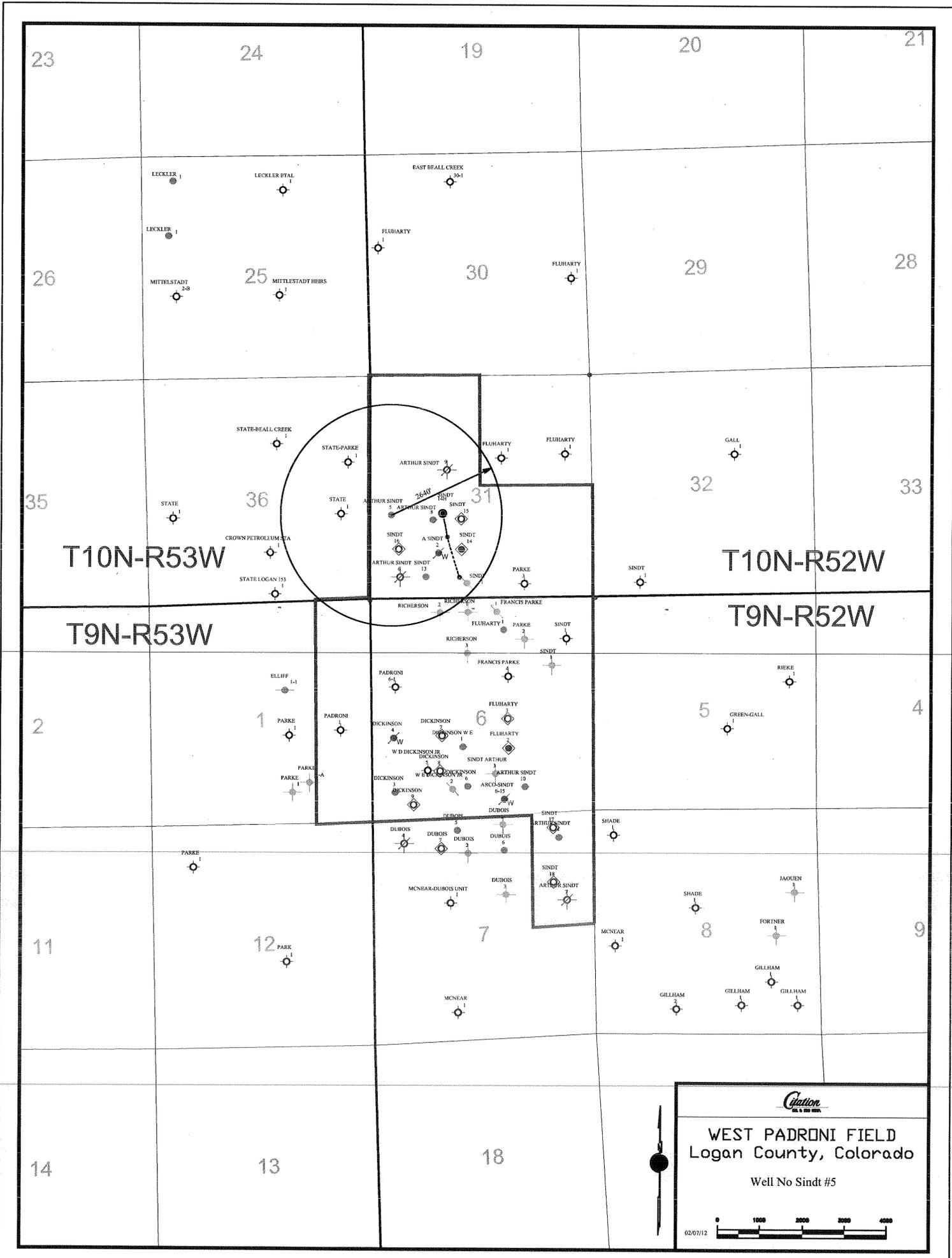
The water from the following wells will be injected into the Sindt #5.

	QRT/QRT	SEC.	TWNSP.	RANGE	API #
Arthur Sindt #4	NE/NE	7	9N	52W	05-075-06603
Arthur Sindt #8	NESW	31	10N	52W	05-075-06675
Arthur Sindt #10	SW/SE	6	9N	52W	05-075-08596
Arthur Sindt #13	SE/SW	31	10N	52W	05-075-09340
Arthur Sindt #14H	NE/SW	31	10N	52W	05-075-09370
Dickinson #1	NE/SW	6	9N	52W	05-075-06625
Dickinson #3	SW/SW	6	9N	52W	05-075-06620
Dickinson #6	SE/SW	6	9N	52W	05-075-09342
Fluharty #1	NW/NE	6	9N	52W	05-075-09333

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T10N-R53W

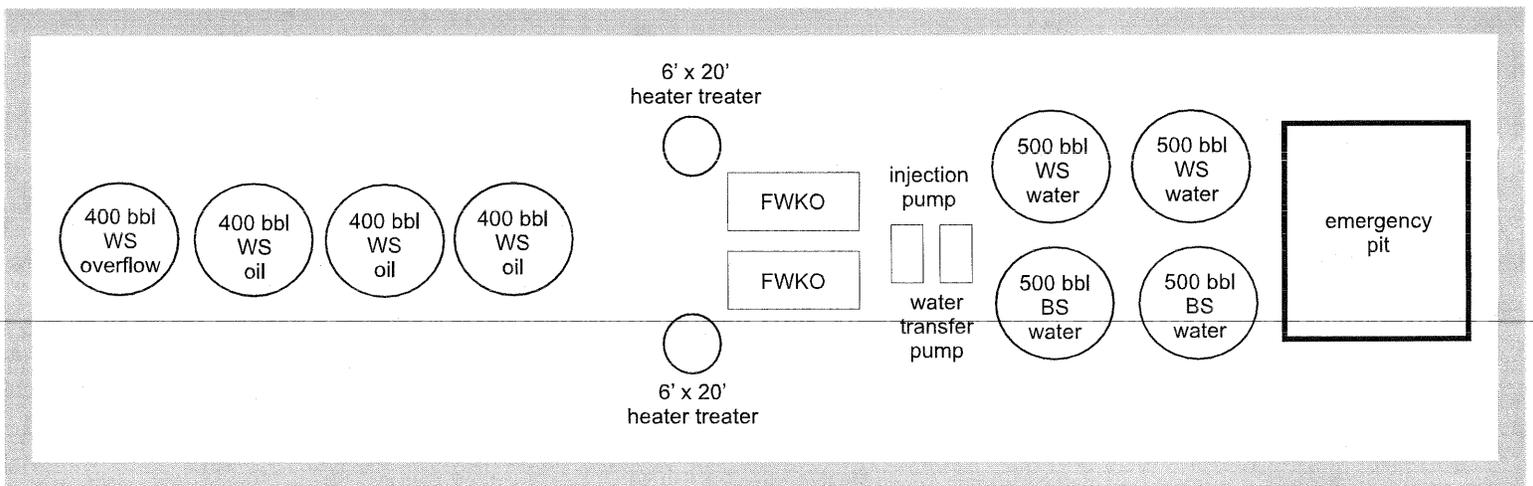
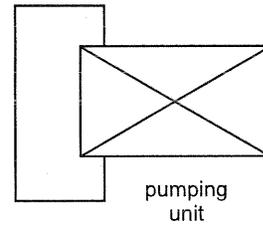
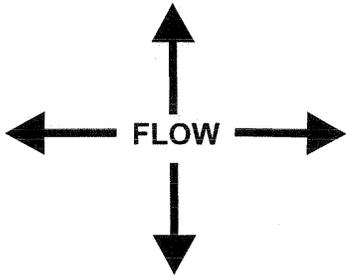
T10N-R52W

T9N-R53W

T9N-R52W

  
**WEST PADRONI FIELD**  
 Logan County, Colorado  
 Well No Sindt #5  
  
 02/07/12





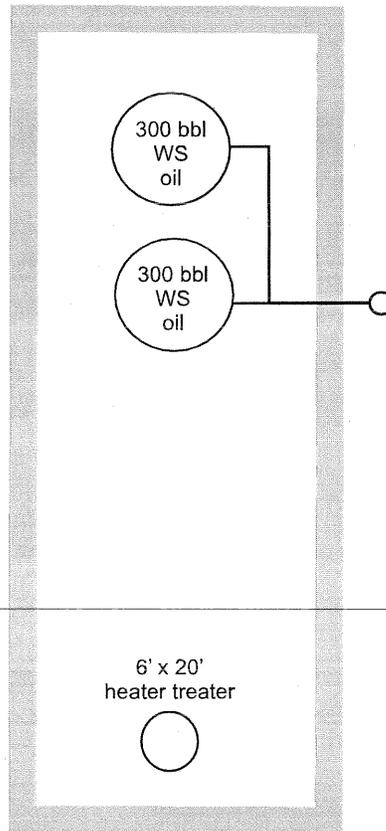
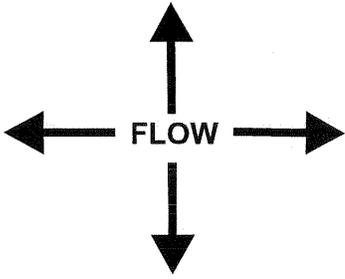
**LEGEND**  
 WS - welded steel  
 BS - bolted steel

**NOT TO SCALE**

Prepared by:  
**CEG, Inc.**  
 Houston, Texas  
 Date:

**CITATION OIL & GAS, CORP.**  
 Sindt Dickenson Tank Battery West Padroni Field, Logan County, Colorado  
 SW SW S - 31, T - 10N, R - 52E - 40° 47.42' N / 103° 13.42' W  
 Facility ID - 91.16446

**SITE  
 PLAT**



**LEGEND**  
WS - welded steel

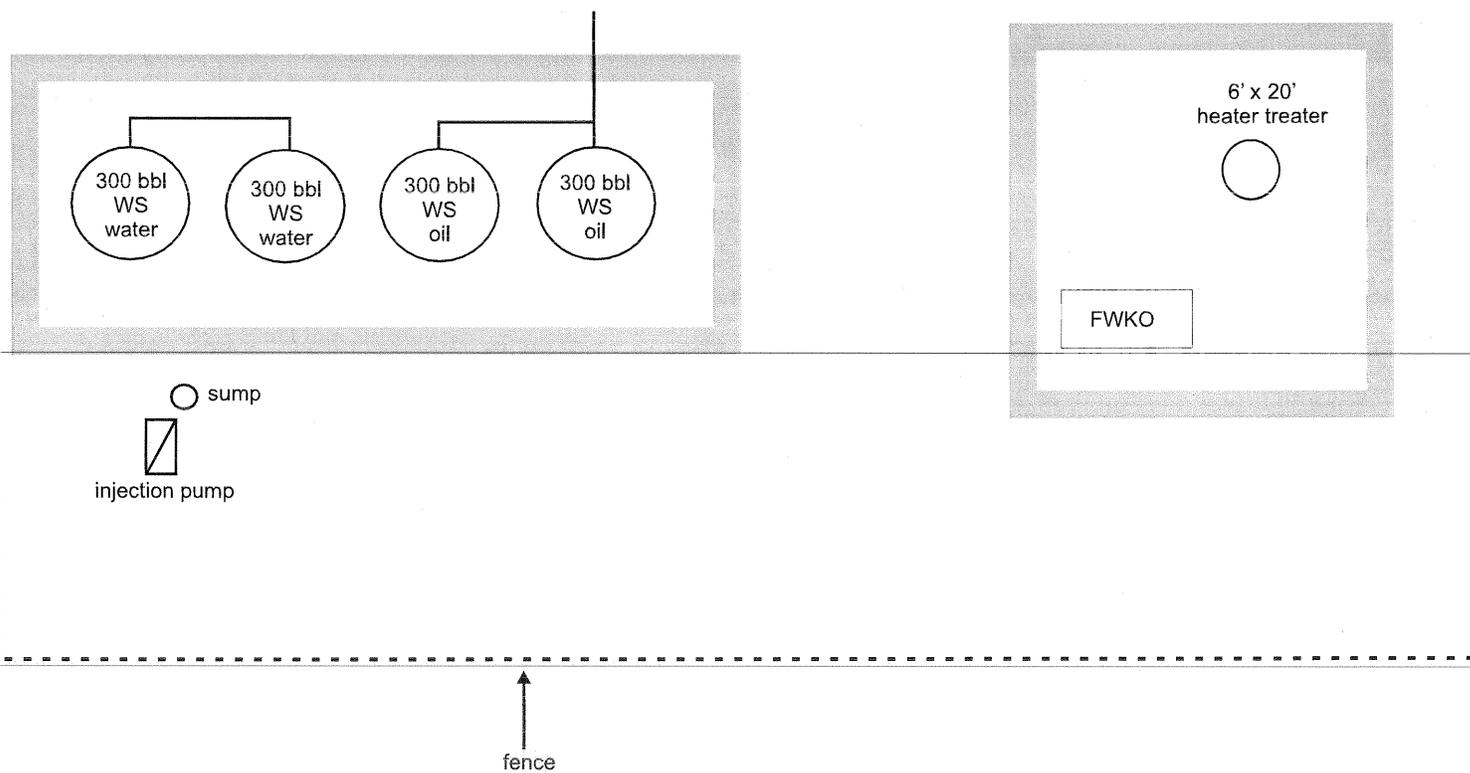
**VOT TO SCALE**

prepared by:  
**CEG, Inc.**  
Houston, Texas

**CITATION OIL & GAS, CORP.**  
Fluharty Tank Battery West Padroni Field, Logan County, Colorado  
SW SW S - 31, T - 10N, R - 52E - 40° 47.405' N / 103° 13.420' W  
Facility ID - 90 16445

**SITE  
PLAT**

County Road



**LEGEND**  
WS - welded steel

**VOT TO SCALE**

prepared by:  
CEG, Inc.  
Houston, Texas

ate:

**CITATION OIL & GAS, CORP.**  
Dubois Tank Battery West Padroni Field, Logan County, Colorado  
NE NW S - 7, T - 9N, R - 52E - 40° 46.477' N / 103° 13.270' W  
Facility ID - 90 16447

**SITE  
PLAT**



# State of Colorado Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203 (303) 894-2100 Fax: (303) 894-2109



FOR OGCC USE ONLY

## INJECTION WELL PERMIT APPLICATION

Submit a completed Form 33 with or after approval obtained on Form 31 (Underground Injection Permit Application) or you must have a previously approved Injection Well Permit.

1. Operator may not commence injection into this well until this form is approved.
2. Each individual injection well must be approved by this form.

Well Name and Number: Arthur Sindt 5 API No: 05-075-06680  
 UIC Facility No: \_\_\_\_\_ (as assigned on an approved Form 31)  
 Project Name: Arthur Sindt 5 Operator Name: Citation Oil & Gas Corp.  
 Field Name and Number: West Padroni 67000 County: Logan  
 Qtr: NWSW Sec: 31 Twp: 10N Range: 52W Meridian: 6th

Complete the Attachment Checklist

	Oper	OGCC
Current Wellbore Diagram	✓	
Proposed Wellbore Diagram	✓	

### CURRENT WELLBORE INFORMATION

	SIZE	DEPTH	NO. SACKS	CEMENT TOP	Cement Top Determined By:		
					CBL	CIRCULATED	CALCULATED
Surface Casing	8 5/8	284	250	Surface	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Intermediate Casing (if any)					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Production Casing	5 1/2"	5150'	150	Surface	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Plug Back Total Depth: 5130 Tubing Depth: 4891.60 Packer Depth: \_\_\_\_\_

O - Sand \_\_\_\_\_ Formation Gross Perforation Interval: 5096 to 5108

\_\_\_\_\_ Formation Gross Perforation Interval: \_\_\_\_\_ to \_\_\_\_\_

\_\_\_\_\_ Formation Open Hole Interval (if any): \_\_\_\_\_ to \_\_\_\_\_

List below all Plugs, Bridge Plugs, Stage Cementing or Squeeze Work performed on this wellbore: (if more space needed, continue on reverse side of this form.)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

Describe below any changes to the wellbore which will be made upon conversion. (This includes but not limited to changes of tubing and packer setting depths, any additional squeeze work for aquifer protection or casing leaks, setting of bridge plugs to isolate non-injection formations.)

1. Open additional perforations in D Sand f4712-4736, J Sand 4830-4845 and O Sand 5110-5130 Set packer @4612
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

Comments: \_\_\_\_\_

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct, and complete.

Print Name: Nathania Naftaly

Signed: Nathania Naftaly Title: Permitting Analyst III Date: 2/4/2012

OGCC Approved: \_\_\_\_\_ Title: \_\_\_\_\_ Date: \_\_\_\_\_

MAX. SURFACE INJECTION PRESSURE: \_\_\_\_\_ If Disposal Well, MAX. INJECTION VOL. LIMIT: \_\_\_\_\_

CONDITIONS OF APPROVAL, IF ANY:





State of Colorado  
Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203 Phone: (303)894-2100 Fax: (303)894-2109



DE	ET	OC	ES

SUNDRY NOTICE

Submit original plus one copy. This form is to be used for general, technical and environmental sundry information. For proposed or completed operations, describe in full on Technical Information Page (Page 2 of this form.) Identify well or other facility by API Number or by OGCC Facility ID. Operator shall send an informational copy of all sundry notices for wells located in High Density Areas to the Local Government Designee (Rule 603b.)

1. OGCC Operator Number: 17180	4. Contact Name: Bridget Lisenbe	Complete the Attachment Checklist OP OGCC
2. Name of Operator: Citation Oil & Gas Corp.	Phone: (281) 891-1570	
3. Address: PO Box 690688 City: Houston State: TX Zip: 77269	Fax: (281) 580-2168	
5. API Number 05-075-06680	OGCC Facility ID Number	Survey Plat
6. Well/Facility Name: Arthur Sindt	7. Well/Facility Number 5	Directional Survey
8. Location (Qtr/Qtr, Sec, Twp, Rng, Meridian): NW SW Sec. 31 T10N R52W 6 PM		Surface Eqpm Diagram
9. County: Logan	10. Field Name: West Padroni	Technical Info Page <input checked="" type="checkbox"/>
11. Federal, Indian or State Lease Number:		Other Procedure <input checked="" type="checkbox"/>

General Notice

CHANGE OF LOCATION: Attach New Survey Plat (a change of surface qtr/qtr is substantive and requires a new permit)

Change of Surface Footage from Exterior Section Lines:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Change of Surface Footage to Exterior Section Lines:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Change of Bottomhole Footage from Exterior Section Lines:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Change of Bottomhole Footage to Exterior Section Lines:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Bottomhole location Qtr/Qtr, Sec, Twp, Rng, Mer \_\_\_\_\_  
 Latitude \_\_\_\_\_ Distance to nearest property line \_\_\_\_\_ Distance to nearest bldg, public rd, utility or RR \_\_\_\_\_  
 Longitude \_\_\_\_\_ Distance to nearest lease line \_\_\_\_\_ Is location in a High Density Area (rule 603b)? Yes/No   
 Ground Elevation \_\_\_\_\_ Distance to nearest well same formation \_\_\_\_\_ Surface owner consultation date: \_\_\_\_\_

GPS DATA:  
 Date of Measurement \_\_\_\_\_ PDOP Reading \_\_\_\_\_ Instrument Operator's Name \_\_\_\_\_

CHANGE SPACING UNIT  
 Formation \_\_\_\_\_ Formation Code \_\_\_\_\_ Spacing order number \_\_\_\_\_ Unit Acreage \_\_\_\_\_ Unit configuration \_\_\_\_\_

Remove from surface bond  
 Signed surface use agreement attached

CHANGE OF OPERATOR (prior to drilling):  
 Effective Date: \_\_\_\_\_  
 Plugging Bond:  Blanket  Individual

CHANGE WELL NAME NUMBER  
 From: \_\_\_\_\_  
 To: \_\_\_\_\_  
 Effective Date: \_\_\_\_\_

ABANDONED LOCATION:  
 Was location ever built?  Yes  No  
 Is site ready for inspection?  Yes  No  
 Date Ready for Inspection: \_\_\_\_\_

NOTICE OF CONTINUED SHUT IN STATUS  
 Date well shut in or temporarily abandoned: \_\_\_\_\_  
 Has Production Equipment been removed from site?  Yes  No  
 MIT required if shut in longer than two years. Date of last MIT \_\_\_\_\_

SPUD DATE: \_\_\_\_\_  REQUEST FOR CONFIDENTIAL STATUS (6 mos from date casing set)

SUBSEQUENT REPORT OF STAGE, SQUEEZE OR REMEDIAL CEMENT WORK \*submit cbl and cement job summaries

Method used	Cementing tool setting/perf depth	Cement volume	Cement top	Cement bottom	Date

RECLAMATION: Attach technical page describing final reclamation procedures per Rule 1004.  
 Final reclamation will commence on approximately \_\_\_\_\_  Final reclamation is completed and site is ready for inspection.

Technical Engineering/Environmental Notice

Notice of Intent Approximate Start Date: \_\_\_\_\_  Report of Work Done Date Work Completed: \_\_\_\_\_

Details of work must be described in full on Technical Information Page (Page 2 must be submitted.)

<input type="checkbox"/> Intent to Recomplete (submit form 2)	<input type="checkbox"/> Request to Vent or Flare	<input type="checkbox"/> E&P Waste Disposal
<input type="checkbox"/> Change Drilling Plans	<input type="checkbox"/> Repair Well	<input type="checkbox"/> Beneficial Reuse of E&P Waste
<input type="checkbox"/> Gross Interval Changed?	<input type="checkbox"/> Rule 502 variance requested	<input type="checkbox"/> Status Update/Change of Remediation Plans
<input type="checkbox"/> Casing/Cementing Program Change	<input checked="" type="checkbox"/> Other: Convert to INJ	for Spills and Releases

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct and complete.

Signed: Nathania Naftaly Date: 2/4/2012 Email: Nnaftaly@cgcc.com  
 Print Name: Nathania Naftaly Title: Permitting Analyst III

COGCC Approved: \_\_\_\_\_ Title: \_\_\_\_\_ Date: \_\_\_\_\_

CONDITIONS OF APPROVAL, IF ANY:

TECHNICAL INFORMATION PAGE



FOR OGCC USE ONLY

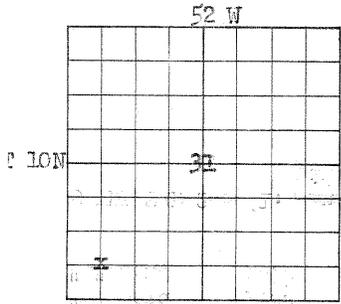
1. OGCC Operator Number: 17180 API Number: 05-075-06680
2. Name of Operator: Citaion Oil & Gas Corp. OGCC Facility ID # 150281
3. Well/Facility Name: Arthur Sindt Well/Facility Number: 5
4. Location (QtrQtr, Sec, Twp, Rng, Meridian): SW SE Sec. 25 T14S R42W 6 PM

This form is to be completed whenever a Sundry Notice is submitted requiring detailed report of work to be performed or completed. This form shall be transmitted within 30 days of work completed as a "subsequent" report and must accompany Form 4, page 1.

5. **DESCRIBE PROPOSED OR COMPLETED OPERATIONS**

Citaion Oil & Gas Corp. requests permission to convert the refernced well to an injector in the D-Sand, J-Sand and O-Sand per attached procedure.

RECORD OF WELL No. 5 ARTHUR SINDT FARM  
SEC. 31 TWP. 10N RANGE 52W COUNTY OR PARISH Logan STATE Colorado ACRES \_\_\_\_\_  
BLOCK \_\_\_\_\_ LOCATION OF WELL 1980 Ft. from the South line and 660 Ft. from the West line of Section 31.  
SURVEY \_\_\_\_\_



(SHOW ALL MEASUREMENTS FROM SURFACE LEVEL)  
ELEVATION: SURFACE 4102 RIG FLOOR \_\_\_\_\_  
LOCATION STAKED BY Cecil J. Osborne DATE 1-20-61  
DRILLING CONTRACTOR Smith Brothers Drilling Co. Inc.  
KIND OF TOOLS USED, CABLE, FROM \_\_\_\_\_ TO \_\_\_\_\_  
ROTARY, FROM 0 TO 5150  
DATE DRILLING COMMENCED 1-21-61 COMPLETED 1-29-61  
DATE COMPLETED TESTING 2-8-61 FIRST PRODUCTION 2-3-61 Swab  
TOTAL DEPTH 5150 PBDT 5130 METHOD OF PRODUCING Pumping  
1ST. 24 HRS. NATURAL \_\_\_\_\_ AFTER SHOT OR ACID \_\_\_\_\_  
24 HR. POTENTIAL AT COMPLETION — OIL 136 WATER 5 CHOKE \_\_\_\_\_  
ALLOWABLE PRODUCTION, PER DAY \_\_\_\_\_ PER CALENDAR DAY \_\_\_\_\_  
API GRAVITY OF CRUDE OIL @ 60° F. 16.0 GOR Gas too little  
TUBINGHEAD PRESSURE \_\_\_\_\_ PSIG KIND OF MUD USED DURING COMPLETION Oil base mud. to measure.

GAS WELL  
VOLUME \_\_\_\_\_ CU. FT.  
DEVIATION TESTS: Maximum: 1-3/4-Deg. @ 3500'  
Final: 1-1/2-Deg. @ 3750'  
HOLE SIZE BEHIND OIL STRING CSG 7-7/8" SIZE OF HOLE BELOW CSG. None  
CORE RECORD: None NUMBER OF CORES \_\_\_\_\_ DEPTH \_\_\_\_\_ LAB. NUMBER \_\_\_\_\_

WAS ELECTRICAL LOG MADE Yes TOP 283 BOTTOM 5164 SERVICE CO. Schlumberger  
Micro-Log Yes 4550 5164 "

WAS RADIO-ACTIVE LOG MADE Yes TOP 4600 BOTTOM 5128 SERVICE CO. McCullough

TEMPERATURE SURVEY \_\_\_\_\_ INDICATED TOP OF CEMENT \_\_\_\_\_  
SET WHIPSTOCKS AT \_\_\_\_\_ SPECIAL CEMENTING JOBS \_\_\_\_\_

PRODUCING FORMATIONS	TOP	BOTTOM	THICK.	PRODUCING FORMATIONS	TOP	BOTTOM	THICK.
1ST <u>"C"</u>	<u>5094</u>	<u>5150</u>	<u>56</u>	5TH			
2ND				6TH			
3RD				7TH			
4TH				8TH			

PERFORMANCE REPORT:  
DATE 2-2-61 NO. HOLES 32 DEPTH 5100 TO 5108 TYPE OF Super PRESENT  
SHOT Csg. Jet STATUS Open

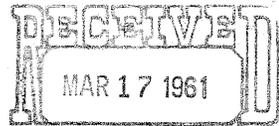
SHOT REPORT—COMPANY	DATE	QUARTS	SIZE & LENGTH	ANCHOR	SHOT BETWEEN
1. <u>None</u>					FT. FT.
2.					FT. FT.

FROM	TO	TYPE TREATMENT	GALLONS OR BARRELS	SAND POUNDS	LOAD - BBLs.	MIN. PRES.	NET
FT.	FT.	<u>N</u>					
FT.	FT.	<u>O</u>					
FT.	FT.	<u>N</u>					
FT.	FT.	<u>E</u>					
FT.	FT.						
FT.	FT.						
FT.	FT.						
FT.	FT.						

*Copy Tulsa  
3-20-61*

CASING IN-WELL						AMOUNT PULLED				NOW IN WELL		
SIZE O.D.	NEW S. H.	WEIGHT PER FT.	FEET	SET AT DEPTH	GRADE, KIND, RANGE	THREAD	SACKS CEMENT	DATE	SIZE	FEET	WEIGHT PER FT.	FEET
<u>8-5/8"</u>	<u>N</u>	<u>17.28</u>	<u>282</u>	<u>281</u>	<u>Sp. Wld. SJ</u>		<u>250</u>					
<u>5-1/2"</u>	<u>N</u>	<u>14</u>	<u>5149</u>	<u>5150</u>	<u>J55 SS R2</u>	<u>8R</u>	<u>150-Pmx</u>					
<u>2-3/8"</u>	<u>SH</u>	<u>4.7</u>	<u>5124</u>	<u>5124</u>	<u>J55 SS R2</u>	<u>8R</u>						

OIL AND GAS CONSERVATION COMMISSION  
OF THE STATE OF COLORADO



PRODUCERS CERTIFICATE OF CLEARANCE AND AUTHORIZATION  
TO TRANSPORT OIL OR GAS FROM A LEASE

(Instructions for filing on reverse side)

Lease ARTHUR SINDT Well No. 5 Field West Padroni  
Sec. 31 Twp. 10 N Range 52 W County Logan Pool "O" Sand  
Producer or Operator  Sinclair Oil & Gas Company

Address all Correspondence concerning this form to: Sinclair Oil & Gas Company  
Street P. O. Box 9 City Fort Morgan State Colorado

The above named producer or operator hereby authorizes Western Crude Marketers, Inc.  
(Name of Transporter)

Whose principal place of business is 1700 Broadway Denver 1, Colorado  
(Street) (City) (State)

And whose field address is P. O. Box 704, Sterling, Colorado

to transport 100 % of the oil or gas produced from the lease designated above until further notice.

Other transporters transporting oil or gas from this lease are:  
None %

REMARKS:

NEW WELL COMPLETION

Date of First Production February 3, 1961 by swab - First Run 2-9-61.

Production gauge on 24 hour basis 2-8-61 136 Bbl. Oil; 4 % Water;

Too small to measure Mcf Gas.

The undersigned certifies that the rules and regulations of the Oil and Gas Conservation Commission of the State of Colorado have been complied with except as noted above and that the transporter(s) is (are) authorized to transport the percentage of oil and/or gas produced from the above described lease and that this authorization will be valid until further notice to the transporter named herein or until cancelled by the Colorado Oil and Gas Conservation Commission.

Executed this 11th day of March, 19 61

Approved:

MAR 17 1961  
Date

A. J. Gerson  
Director

Sinclair Oil & Gas Company  
(Producer or Operator)

COPY ORIG.  
SIGNED A. B. PARKER / BLV  
District Superintendent  
(Affiant) (Title)

OIL AND GAS CONSERVATION COMMISSION  
OF THE STATE OF COLORADO

1-31-61

WELL COMPLETION REPORT

INSTRUCTIONS

Within thirty (30) days after the completion of any well, the owner or operator shall transmit to the Director three (3) copies of this form, for wells drilled on Patented or Federal lands and four (4) copies for wells drilled on State lands. Upon request, geological information will be kept confidential for six months after the filing thereof.

Field West Padroni Operator Sinclair Oil & Gas Company  
 County Logan Address P. O. Box 9  
 City Fort Morgan State Colorado  
 Lease Name Arthur Sindt Well No. 5 Ground Level Elevation 4102 Ft.  
 Location C-NW-SW Section 31 Township 10N Range 52W Meridian 6th P.M.

(quarter quarter)  
1,980 feet from S Section line and 660 feet from W Section Line  
 N or S E or W

Drilled on: Private Land  Federal Land  State Land   
 Number of producing wells on this lease including this well: Oil 5; Gas -  
 Well completed as: Dry Hole  Oil Well  Gas Well

The information given herewith is a complete and correct record of the well and all work done thereon so far as can be determined from all available records.

Date January 21 Signed District Superintendent  
 Title District Superintendent

The summary on this page is for the condition of the well as above date.  
 Commenced drilling January 21, 1961 Finished drilling January 31, 1961

CASING RECORD

SIZE	WT. PER FT.	GRADE	DEPTH LANDED	NO. SKS. CMT.	W.O.C.	PRESSURE TEST	
						Time	Psi
8-5/8"	17.28	Sp.Wld.SJ	284	250	12-Hrs.	1-Hr.	600
5-1/2"	14	J55 SS R2	5,150	150	72-hrs.	2-Hrs.	1500

CASING PERFORATIONS

Type of Charge	No. Perforations per ft.	Zone	
		From	To
Super Csg. Jets	4	5100'	5108'

TOTAL DEPTH 5150 PLUG BACK DEPTH 5130

Oil Productive Zone: From 5100 To 5108 Gas Productive Zone: From - To -  
 Electric or other Logs run IE, Micro-Log & Gamma Ray-Neutron Date January 21, 1961  
 Was well cored? No Has well sign been properly posted? Yes

RECORD OF SHOOTING AND/OR CHEMICAL TREATMENT

DATE	SHELL, EXPLOSIVE OR CHEMICAL USED	QUANTITY	ZONE		FORMATION	REMARKS
			From	To		
	None					

Results of shooting and/or chemical treatment:

DATA ON TEST

Test Commenced 7 A.M. on 2-7 1961 Test Completed 7 A.M. on 2-8 1961  
 For Flowing Well: Flowing Press. on Csg. \_\_\_\_\_ lbs./sq.in.  
 Flowing Press. on Tbg. \_\_\_\_\_ lbs./sq.in.  
 Size Tbg. \_\_\_\_\_ in. No. feet run \_\_\_\_\_  
 Size Choke \_\_\_\_\_ in.  
 Shut-in Pressure \_\_\_\_\_  
 For Pumping Well: Length of stroke used 64 inches.  
 Number of strokes per minute 14  
 Diam. of working barrel 1-3/4 inches  
 Size Tbg. 2-3/8 in. No. feet run 5124  
 Depth of Pump 5110 feet.

If flowing well, did this well flow for the entire duration of this test without the use of swab or other artificial flow device?

TEST RESULTS: Bbls. oil per day <u>136</u> API Gravity <u>16.0</u>
Gas Vol. <u>*</u> Mcf/Day; Gas-Oil Ratio <u>-</u> Cf/Bbl. of oil
B.S. & W. <u>4</u> %; Gas Gravity <u>-</u> (Corr. to 15.025 psi & 60°F)

\* Too little to measure.

SEE REVERSE SIDE

THIS FORM MUST BE SUBMITTED PRIOR TO THE EXPIRATION OF THE PERMIT. TYPE OR PRINT IN BLACK INK. COPY OF ACCEPTED STATEMENT MAILED ON REQUEST.

COLORADO DIVISION OF WATER RESOURCES

300 Columbine Bldg., 1845 Sherman St. Denver, Colorado 80203

RECEIVED

MAY 28 '74

WATER RESOURCES STATE ENGINEER

FOR OFFICE USE ONLY Div. 1 City. 38

XX STATEMENT OF BENEFICIAL USE OF GROUND WATER AMENDMENT OF EXISTING RECORD

PERMIT NUMBER 71139

STATE OF COLORADO COUNTY OF Logan } SS.

LOCATION OF WELL

THE AFFIANT(S) Inez M. & Arthur E Sindt whose mailing address is R. R. 2 City. Sterling, Colorado 80751

County Logan SW 1/4 of the SW 1/4, Section 31 Twp. 10 N, Rng. 52 W, 6 P.M.

being duly sworn upon oath, deposes and says that he (they) is (are) the owner(s) of the well described hereon; the well is located as described above, at distances of 1288 feet from the South section line and 1240 feet from the West section line; water from this well was first applied to a beneficial use for the purpose(s) described herein on the day of May, 19 74; the maximum sustained pumping rate of the well is 15 gallons per minute, the pumping rate claimed hereby is 15 gallons per minute; the total depth of the well is 310 feet; the average annual amount of water to be diverted is 2 acre-feet; for which claim is hereby made for Livestock

purpose(s); the legal description of the land on which the water from this well is used is SW 1/4, SW 1/4, Sec 31, 10 N, 52W, 6 PM, Logan County, Colorado which totals 440 acres and which is illustrated on the map on the reverse side of this form; that this well was completed in compliance with the permit approved therefor; this statement of beneficial use of ground water is filed in compliance with law; he (they) has (have) read the statements made hereon; knows the content thereof; and that the same are true of his (their) knowledge.

Signature(s) Inez M. Sindt Arthur E. Sindt

Subscribed and sworn to before me on this 23 day of May, 19 74

My Commission expires: My Commission expires June 27, 1974

Elsie E. Stewart NOTARY PUBLIC

ACCEPTED FOR FILING BY THE STATE ENGINEER OF COLORADO PURSUANT TO THE FOLLOWING CONDITIONS:

FOR OFFICE USE ONLY Court Case No. Sec. 1/4, 1/4, 1/4 Well Use 2 Dist. 64 Basin Man. Dis. Prior. Mo. Day Yr.

Well drilled by Stewart Drilling Co Lic. No. 66

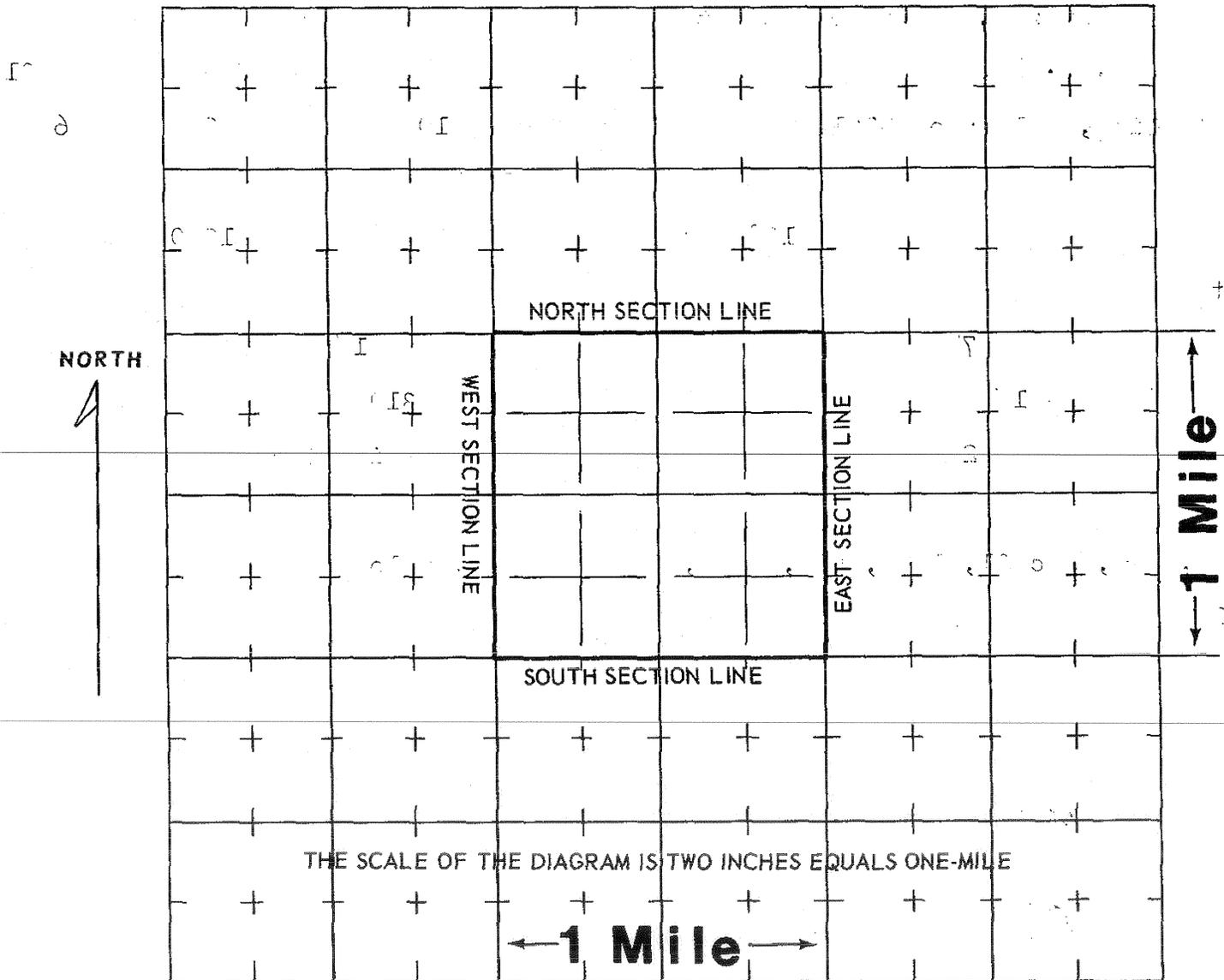
Pump installed by Stewart Drilling Co Lic. No. 66

Meter Serial No. \_\_\_\_\_  Flow Meter  Electric Meter  Fuel Meter

Owner of land on which water is being used \_\_\_\_\_

**THE LOCATION OF THE WELL MUST BE SHOWN AND THE AREA ON WHICH THE WATER IS USED MUST BE SHADED OR CROSS-HATCHED ON THE DIAGRAM BELOW.**

This diagram represents nine (9) sections. Use the **CENTER SQUARE** (one section) to indicate the location of the well, if possible.



**WATER EQUIVALENTS TABLE (Rounded Figures)**

- An acre-foot covers 1 acre of land 1 foot deep.
- 1 cubic foot per second (cfs) . . . 449 gallons per minute (gpm).
- 1 acre-foot . . . 43,560 cubic feet . . . 325,900 gallons.
- 1,000 gpm pumped continuously for one day produces 4.42 acre-feet.
- 100 gpm pumped continuously for one year produces 160 acre-feet.

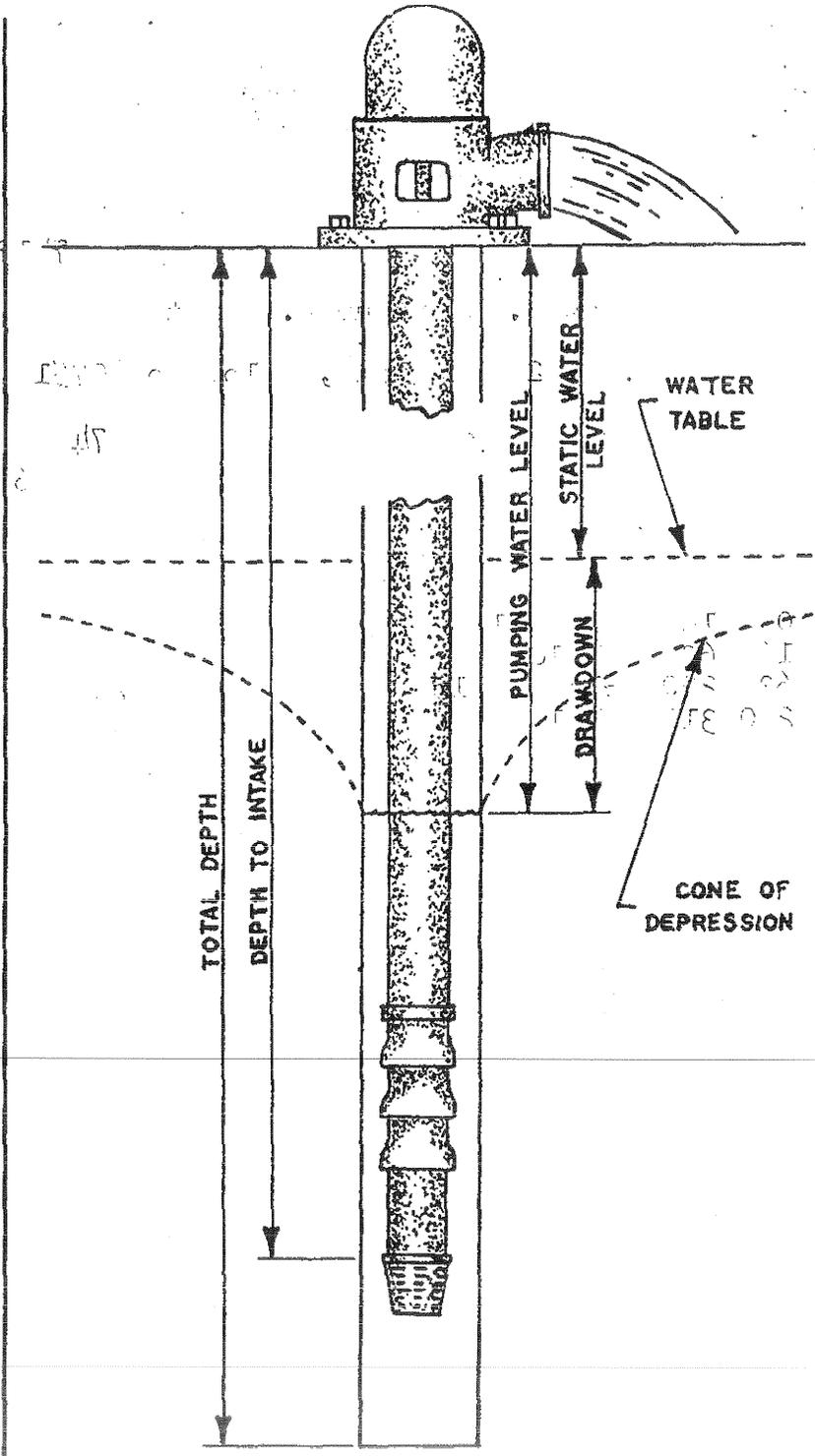


# PUMP INSTALLATION REPORT

Pump Make Berkeley  
 Type Submersible  
 Powered by Electric HP 1/2  
 Pump Serial No. 7306271  
 Motor Serial No. \_\_\_\_\_  
 Date Installed May 03, 1974  
 Pump Intake Depth 258  
 Remarks \_\_\_\_\_

## WELL TEST DATA WITH PERMANENT PUMP

Date Tested May 3, 1974  
 Static Water Level Prior to Test 86  
 Length of Test 2 Hours  
 Sustained yield (Metered) \_\_\_\_\_ GPM  
 Pumping Water Level 250  
 Remarks \_\_\_\_\_



## CONTRACTORS STATEMENT

The undersigned, being duly sworn upon oath, deposes and says that he is the contractor of the well or pump installation described hereon; that he has read the statement made hereon; knows the content thereof, and that the same is true of his own knowledge.

Signature Dennis Stewart License No. 66  
 State of Colorado, County of Logan SS  
 Subscribed and sworn to before me this 22 day of May, 19 74.  
 My Commission expires: June 27, 1974  
 My Commission expires: \_\_\_\_\_, 19 \_\_\_\_  
 Notary Public Elsie E Stewart

COLORADO DIVISION OF WATER RESOURCES  
300 Columbine Bldg., 1845 Sherman St., Denver, Colorado 80203

RECEIVED  
APR 08 '74  
WATER RESOURCES  
STATE ENGINEER  
COLO.

PERMIT APPLICATION FORM

*Ent*

Application must be complete where applicable. Type or print in BLACK INK. No overstrikes or erasures unless initialed. Proper fee must be submitted with the application.

A PERMIT TO USE GROUND WATER  
 A PERMIT TO CONSTRUCT A WELL  
FOR:  A PERMIT TO INSTALL A PUMP

REPLACEMENT FOR NO. \_\_\_\_\_

OTHER \_\_\_\_\_

38

(1) APPLICANT - mailing address

NAME Inez M. Sindt & Arthur E. Sindt  
STREET R. R. 2  
CITY Sterling Colorado 80751  
(State) (Zip)  
TELEPHONE NO. 368 2085

FOR OFFICE USE ONLY: DO NOT WRITE IN THIS COLUMN

Receipt No. 51251 / \_\_\_\_\_

Basin \_\_\_\_\_ Dist. \_\_\_\_\_

CONDITIONS OF APPROVAL

This well shall be used in such a way as to cause no material injury to existing water rights. The issuance of the permit does not assure the applicant that no injury will occur to another vested water right or preclude another owner of a vested water right from seeking relief in a civil court action.

Approved per (3) (b) (ii). CRS148-21-45: this well to be the only well on a tract of more than 35 acres designated as that 40 acres in SW-SW-31-10W-52W-6th

(2) LOCATION OF PROPOSED WELL

County Logan  
SW  $\frac{1}{4}$  of the SW  $\frac{1}{4}$ , Section 31  
Twp. 10 N, Rng. 52 W, 6 P.M.

(3) WATER USE AND WELL DATA

Proposed maximum pumping rate (gpm) 15

Average annual amount of ground water to be appropriated (acre-feet): 2

Number of acres to be irrigated: None

Proposed total depth (feet): 100 ft

Aquifer ground water is to be obtained from:  
Shale

Owner's well designation Stock

GROUND WATER TO BE USED FOR:

HOUSEHOLD USE ONLY - no irrigation (0)  
 DOMESTIC (1)  INDUSTRIAL (5)  
 LIVESTOCK (2)  IRRIGATION (6)  
 COMMERCIAL (4)  MUNICIPAL (8)  
 OTHER (9) \_\_\_\_\_

APPLICATION APPROVED

I.D. 1 W.D. 64 COUNTY 38

(4) DRILLER

Name Stewart Drilling Co.  
Street R. R. 1  
City Sterling Colorado 80751  
(State) (Zip)  
Telephone No. 522 1454 Lic. No. 66

PERMIT NUMBER 74139

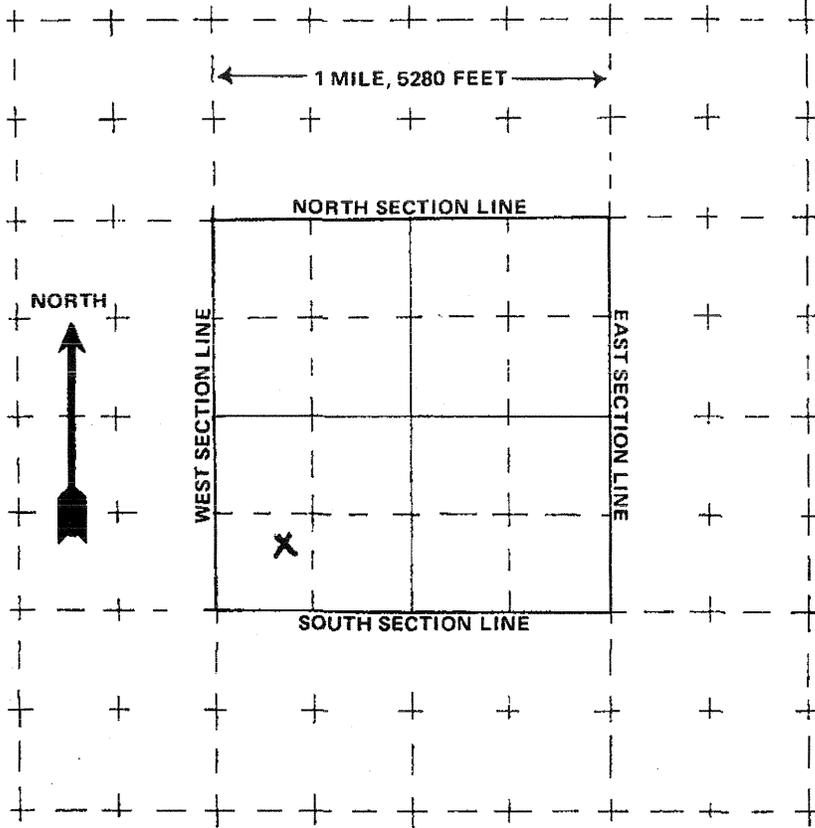
DATE ISSUED MAY 3 1974

EXPIRATION DATE MAY 3 1976

*A. W. Erker*  
DEPUTY (STATE ENGINEER)

*Robb*

(5) **THE LOCATION OF THE PROPOSED WELL** and the area on which the water will be used must be indicated on the diagram below. Use the CENTER SECTION (1 section, 640 acres) for the well location.



The scale of the diagram is 2 inches = 1 mile  
Each small square represents 40 acres.

**WATER EQUIVALENTS TABLE (Rounded Figures)**

An acre-foot covers 1 acre of land 1 foot deep  
1 cubic foot per second (cfs) . . . 449 gallons per minute (gpm)  
A family of 5 will require approximately 1 acre-foot of water per year.  
1 acre-foot . . . 43,560 cubic feet . . . 325,900 gallons.  
1,000 gpm pumped continuously for one day produces 4.42 acre-feet.

(6) **THE WELL MUST BE LOCATED BELOW** by distances from section lines.

1288 ft. from South sec. line  
(north or south)

1254 ft. from West sec. line  
(east or west)

LOT \_\_\_\_\_ BLOCK \_\_\_\_\_ FILING # \_\_\_\_\_

SUBDIVISION \_\_\_\_\_

(7) **TRACT ON WHICH WELL WILL BE LOCATED**

No. of acres 440. Will this be the only well on this tract? Yes

(8) **PROPOSED CASING PROGRAM**

Plain Casing

5 in. from 0 ft. to 80 ft.

Perforated casing

5 in. from 80 ft. to 100 ft.

\_\_\_\_\_ in. from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.

(9) **FOR REPLACEMENT WELLS** give distance and direction from old well and plans for plugging it:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(10) **LAND ON WHICH GROUND WATER WILL BE USED:**

Owner(s): Inez M. & Arthur E. Sindt No. of acres: 440

Legal description: SW $\frac{1}{4}$ , SW $\frac{1}{4}$ , Sec 31, T 10N, R 52W, 6 PM, Logan County, Colorado

(11) **DETAILED DESCRIPTION** of the use of ground water: Household use and domestic wells must indicate type of disposal system to be used.

Livestock well

(12) **OTHER WATER RIGHTS** used on this land, including wells.

Type of right	Used for (purpose)	Legal Description of land on which used
None		

(13) **THE APPLICANT(S) STATE(S) THAT THE INFORMATION SET FORTH HEREON IS TRUE TO THE BEST OF HIS KNOWLEDGE.**

Arthur E. Sindt  
SIGNATURE OF APPLICANT(S)

# SCHLUMBERGER WELL SURVEYING CORPORATION

HOUSTON, TEXAS



## Induction-Electrical Log

FIELD or LOCATION WELL	COMPANY	COMPANY <u>SINCLAIR</u>	Other Surveys <u>ML</u>
		<u>OIL &amp; GAS CO.</u>	Location of Well
		WELL <u>SINDT #5</u>	
		FIELD <u>WEST PADRONI</u>	
	LOCATION <u>SEC 31-10N-52W</u>		Elevation: D.F.: _____
	<u>C NW SW</u>		K.B.: <u>4112</u>
	COUNTY <u>LOGAN</u>		or G.L.: <u>4102</u>
	STATE <u>COLORADO</u>		FILING No. _____

RUN No.	<u>ONE</u>			
Date	<u>1/29/61</u>			
First Reading	<u>5164</u>			
Last Reading	<u>283</u>			
Feet Measured	<u>4881</u>			
sg. Schlum.	<u>283</u>			
sg. Driller	<u>282</u>			
Depth Reached	<u>5165</u>			
Bottom Driller	<u>5158</u>			
Depth Datum	<u>GL</u>			
Fluid Nat.	<u>GEL-OIL</u>			
Dens. Visc.	<u>9.6</u>	<u>10.3</u>		
Fluid Resist.	<u>1.5 @ 73°F</u>	@	°F	@ °F
" Res. BHT	<u>0.83 @ 132°F</u>	@	°F	@ °F
Rmf	<u>1.0 @ 73°F</u>	<u>0.55 @ 132°F</u>	@	°F
Rmc	<u>1.1 @ 132°F</u>	@	°F	@ °F
" pH	<u>9.5 @</u>	@	°F	@ °F
" Wtr. Loss	<u>2.8 CC 30 min.</u>	CC 30 min.	CC 30 min.	CC 30 min.
Bit Size	<u>7 7/8"</u>			
pcgs.—AM	<u>16"</u>			
MN	<u>34' 6"</u>			
IND.	<u>6FF40</u>			
Oper. Rig Time	<u>1.4 HR</u>			
Truck No.	<u>1541</u>			
Recorded By	<u>KIMBALL</u>			
Witness	<u>PRICE</u>			

FOLD HERE



February 10, 2012

Carol and Stanley Fluharty  
18979 County Road 50, Route 2  
Sterling, CO 80751

Re: Seven Day Notice  
Sindt #5  
SW NE Sec. 31 T10N R52W  
Logan County, Colorado

Dear Surface Owner(s):

Citation Oil & Gas Corp. has filed with the State of Colorado Oil and Gas Conservation Commission an application for permit to convert Sindt #5 well to a Salt Water Disposal well.

It is our understanding that you are the surface owner of the SW of Section 17, Township 10N, Range 52 West per a records search of the County of Logan.

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If you have any questions regarding this application please contact the undersigned at 281-891-1570. It is the responsibility of you as the surface owner to notify any affected tenant of our proposed operations.

Sincerely,

A handwritten signature in black ink that reads "Nathania Naftaly".

---

Nathania Naftaly  
Permitting Analyst III