

*P&A - 8/6/73*  
*(part of P109915 PFD)*  
*9cct*



*Cardinal Pet. Co.*  
*Ranell Beckley*  
*619 Lincoln St.*  
*Brush, Colo.*  
*80723*

STATE OF COLORADO  
DEPARTMENT OF NATURAL RESOURCES  
OIL AND GAS CONSERVATION COMMISSION  
Room 237 Columbine Building  
1845 Sherman Street  
Denver, Colorado 80203

*842-2827*  
*(Mobile) 867-8430*

*Cardinal - Soacina* (*Johnson Hill North*  
*NW18-8N-54W*)  
*3-9-73*

Gentlemen:

*v address, Billings, Mont.*

On *1/11 1972* a field inspection was made of the retaining pits at the above described lease. Your application, For Permit To Use Earthen Pit, OGCC Form 15 (cannot be approved) (approval is rescinded) because certain requirements of the rules and regulations must be met as checked below.

1.  Removal of the oil accumulation on the surface of the produced water in the pit and maintenance of an oil-free pit in the future. (Rule 326)
2.  Construction of a small skim pit or skimming facility to maintain an oil-free retaining pit. (Rule 325)
3.  Underlying soil conditions require the retaining pit to be sealed or lined to prevent seepage. (Rule 326)
4.  Other. \_\_\_\_\_

You are hereby given *60* days from receipt of this notice to correct the deficiencies or make application to this Commission for a hearing on the matter.

Very truly yours,  
  
*DV Rogers*  
Douglas V. Rogers  
Director

MEMORANDUM

TO: D. V. Rogers

FROM: C. G. McDowell

On August 9, 1972 J. A. McKee and I drove to the Johnson Hill No. Field, Logan County.

Cardinal-Svacina lease, NW 18-8N-54W. One pit 100% covered oil, very dirty. 50' X 10' X 5' TDS 2,940 per DST "J" Sand. Surface 100' approximately White River sand and clay, underlain by Pierre Shale. No nearby water wells. No alluvial. Nearest stream  $\frac{1}{2}$  mile. Pit should be cleaned out and a small skim pit constructed. Immediate action recommended.

*No approval until above are  
completed with.  
DOR*

6/14/73 - Three small pits 100% oil. One pit empty, clean. Lease shut-in, Prep. P & A?

STATE OF COLORADO  
OIL AND GAS CONSERVATION COMMISSION  
Department of Natural Resources

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APPLICATION FOR PERMIT TO USE EARTHEN PIT

1. CHECK ONE: NEW PIT  EXISTING PIT  TREATMENT FACILITY  OTHER  COLORADO OIL & GAS COMMISSION

2. NAME OF OPERATOR  
Cardinal Petroleum Company - Plains Division *Johnson Hill No.*

3. ADDRESS OF OPERATOR  
1135 Petroleum Club Bldg., Denver, Colo. 80202  
PHONE NO. 266-3163

4. LEASE NAME  
Svacina

5. PRODUCING FORMATION  
Dakota "J"

6. GROUND ELEVATION  
4395'

7. LOCATION (Report location clearly to the nearest 10 acres)  
SW NE NW Sec. 18-8N-54W

8. COUNTY  
Logan

9. STATE  
Colo.

10. SIZE OF PIT:  
LENGTH 50 FT. WIDTH 10 FT. DEPTH 5 FT.

11. CAPACITY  
445 BBLs.

12. ESTIMATED INFLOW  
12 BIS/DAY

13. DISPOSAL OF PIT CONTENT:  
HAULED \_\_\_\_\_ DISPOSAL WELL \_\_\_\_\_ EVAPORATION

14. MAXIMUM FLUID LEVEL ABOVE AVG. GROUND LEVEL  
-0- FT.

15. DRAINAGE DISTANCE IN FEET TO CLOSEST FRESH WATER POND, STREAM OR LAKE  
\_\_\_\_\_ FT.

16. SUBSOIL TYPE  
Limestone Rock

17. TYPE OF SEALING MATERIAL (Including specifications and Method of Application)  
None

18. ADDITIONAL INFORMATION (By attachment include detailed plan of operation, chemical analysis of produced water, necessary maps, logs and other information as may be required by Rules 325 and 326 of the Rules and Regulations of the Oil and Gas Conservation Commission.)  
  
No. 21 Water Analysis

DVR	
FJP	
HMM	
JAM	<input checked="" type="checkbox"/>
JJE	

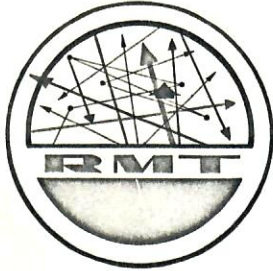
19. I HEREBY CERTIFY THAT THE FOREGOING IS TRUE AND CORRECT

SIGNED *Robert E. Johnson* TITLE Attorney DATE 12.8.71

THIS SPACE FOR COMMISSION USE

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_

CONDITIONS OF APPROVAL, IF ANY:  
*P & A 8/6/73 JJA*



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ROCKY MOUNTAIN TECHNOLOGY, INC. CONS. COMM.  
490 Orchard Street, Golden, Colorado 80401 • 303 279-4527

Report of Analysis

Cardinal Petroleum  
110 16th Street  
Denver, Colorado

Ref. No.: RMT 7955

October 20, 1971

ATTN: Mr. Bob Johnson

Reference:

- |                              |                           |
|------------------------------|---------------------------|
| #1 Jackson Lease             | #14 Mitchell "A" Lease    |
| #2 Robbins Lease             | #15 Peterson (CPC) Lease  |
| #3 Pankonin Lease            | #16 Gebauer Lease         |
| #4 Weninger Lease            | #17 Hogsett-McLagan Lease |
| #5 Simonsen Lease            | #18 Jost Lease            |
| #6 Kloefkorn Lease           | #19 Moccasin Unit         |
| #7 Miller Lease              | #20 State "K" Lease       |
| #8 Urban Lease               | #21 Svacina Lease         |
| #9 Neahring Lease            | #22 Hough "B" Lease       |
| #10 Baughman Farms "A" Lease | #23 Hough (PLS) Lease     |
| #11 Bandhus Lease            | #24 Rediess Lease         |
| #12 Gebauer "D" Lease        |                           |
| #13 Venrick Lease            |                           |

Analysis For*	Sample Number					
	#1	#2	#3	#4	#5	#6
Calcium	4.0	4.8	2.8	1.2	0.4	1.6
Magnesium	41.4	22.4	6.3	4.9	7.3	4.9
Chloride	1335	1265	1350	1335	598	105
Carbonate	<0.1	<0.1	<0.1	6.2	46.8	<0.1



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Analysis For*	Sample Number					
	#13	#14	#15	#16	#17	#18
Bicarbonate	892	1080	1048	1860	876	1450
Sulfate	86.6	45.7	70.7	69.5	159.2	73.3
Sodium	1563	1850	3230	1780	1563	3300
pH	7.5	7.6	7.5	7.7	7.9	7.5
Resistivity (ohms)	$1.6 \times 10^2$	$1.4 \times 10^2$	$1.4 \times 10^2$	$1.3 \times 10^2$	$1.5 \times 10^2$	$1.0 \times 10^2$
Total Dissolved Solids	4696	5404	5396	2505	4785	6682

Analysis For*	Sample Number					
	#19	#20	#21	#22	#23	#24
Calcium	3.2	12.0	19.2	8.8	5.6	6.8
Magnesium	75.9	27.9	78.3	37.6	39.5	28.0
Chloride	1320	1785	980	1500	3870	1875
Carbonate	9.4	3.1	< 0.1	< 0.1	< 0.1	< 0.1
Bicarbonate	1685	663	1520	2862	2098	2782
Sulfate	100.8	266.6	106.2	223.1	113.5	246.1
Sodium	1125	1500	850	1975	2625	1687
pH	8.1	8.0	7.7	7.5	7.6	7.9
Resistivity (ohms)	$1.9 \times 10^2$	$2.2 \times 10^2$	$2.4 \times 10^2$	$1.5 \times 10^2$	$1.0 \times 10^2$	$1.3 \times 10^2$
Total Dissolved Solids	3986	3511	2940	8543	5500	5548

\*All results are reported in parts per million (ppm) except as indicated above.

Rocky Mountain Technology, Inc.

*Gary C. Stebbins*

Gary C. Stebbins  
Chemist