

UTAH OIL AND GAS CONSERVATION COMMISSION

REMARKS: WELL LOG ELECTRIC LOGS **X** WATER SANDS LOCATION INSPECTED SUB. REPORT/abd.

DATE FILED: **AUGUST 24, 1998**

LAND: FEE & PATENTED **FEE** STATE LEASE NO. PUBLIC LEASE NO. INDIAN

DRILLING APPROVED: **NOVEMBER 3, 1998**

SPOUDED IN:

COMPLETED: PUT TO PRODUCING:

INITIAL PRODUCTION:

GRAVITY A.P.I.

GOR:

PRODUCING ZONES:

TOTAL DEPTH:

WELL ELEVATION:

DATE ABANDONED: **6-5-2000 LA'D**

FIELD: **UNDESIGNATED**

UNIT:

COUNTY: **EMERY**

WELL NO. **SNOW 3(D)-13-19-7** API NO. **43-015-30339**

LOCATION **473 FNL** FT. FROM (N) (S) LINE. **1972 FWL** FT. FROM (E) (W) LINE. **NE NW** 1/4 - 1/4 SEC. **13**

TWP.	RGE.	SEC.	OPERATOR	TWP.	RGE.	SEC.	OPERATOR
				19S	7E	13	CHANDLER & ASSOCIATES

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

SUBMIT TRIPLICATE*
(Other instructions on reverse side)

5. Lease Designation and Serial No.

8706-089-00 Fee

6. If Indian, Allottee or Tribe Name

N/A

7. Unit Agreement Name

N/A

8. Farm or Lease Name

Snow

9. Well No.

#3(D)-13-19-7

10. Field and Pool, or Wildcat

Buzzard Bench

11. Sec., T., R., M., or Blk. and Survey or Area

Sec. 13, T19S, R7E, S.L.B.&

12. County or Parrish 13. State

Emery Utah

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work

DRILL

DEEPEN

PLUG BACK

b. Type of Well

Oil Well

Gas Well

Other Injection

Single Zone

Multiple Zone

2. Name of Operator

Chandler & Associates, Inc.

3. Address of Operator

475 Seventeenth Street, Suite 1000, Denver, Colorado, 80202

4. Location of Well (Report location clearly and in accordance with any State requirements.*)

At surface

473' FNL 1972' FWL

At proposed prod. zone 144 60'

14. Distance in miles and direction from nearest town or post office*

See Topo Map "A"

15. Distance from proposed*

location to nearest property or lease line, ft. (Also to nearest drlg. line, if any)

473'

16. No. of acres in lease

160

17. No. of acres assigned to this well

40

18. Distance from proposed location* to nearest well, drilling, completed, or applied for, on this lease, ft.

19. Proposed depth

6000'

20. Rotary or cable tools

Rotary

21. Elevations (Show whether DF, RT, GR, etc.)

5854' GR

22. Approx. date work will start*

A.S.A.P.

23.

PROPOSED CASING AND CEMENTING PROGRAM

Size of Hole	Size of Casing	Weight per Foot	Setting Depth	Quantity of Cement
17"	13 3/8"	48#	60'	(See Attached Drilling Plan)
12 1/4"	9 5/8"	32.3#	1900'	(See Attached Drilling Plan)
8 3/4"	7"	23#	6000'	(See Attached Drilling Plan)

- M.I.R.U.
- Drill to 1900' with fresh water. Run 9 5/8" casing.
- Drill to 6000' with fresh water. Run 7" casing.
- If unsuccessful, well will be plugged and abandoned as instructed by the state.

I hereby certify that I am responsible by the terms and conditions of the lease to conduct lease operations. Bond coverage for lease activities is being provided by Chandler & Associates, Inc. State Bond # 19619040787. Fee # A5857

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

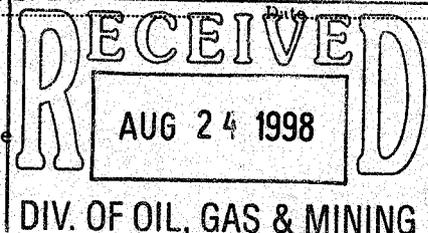
24. Signed: *Tracy D. Hedline* Title: *Agent for Chandler* Date: *8-20-98*

(This space for Federal or State office use)

Permit No. *43-015-30339* Approved by: *Bradley G. Hill* Title: *BRADLEY G. HILL RECLAMATION SPECIALIST III*

Conditions of approval, if any:

*See Instructions On Reverse Side



*49 2471.8
133 6026.8*

T19S, R7E, S.L.B.&M.

CHANDLER & ASSOCIATES, INC.

Well location, SNOW #3(D)-13-19-7, located as shown in the NE 1/4 NW 1/4 of Section 13, T19S, R7E, S.L.B.&M. Emery County, Utah.

BASIS OF ELEVATION

JOHNSON TRIANGULATION IN THE SE 1/4 OF SECTION 11, T19S, R7E, S.L.B.&M. TAKEN FROM THE CASTLE DALE QUADRANGLE, UTAH, EMERY COUNTY, 7.5 MINUTE QUAD. (TOPOGRAPHIC MAP) PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING 5958 FEET.

1911
Brass Cap
Stones

2702.03' (Measured)
N89°05'W - G.L.O. (Basis of Bearings)

N88°19'W - 40.41 (G.L.O.)

1975
Brass Cap
Pile of Stones

SNOW #3(D)-13-19-7
Elev. Ungraded Ground = 5854'

1972'

473'

N0°35'W - 40.96 (G.L.O.)

N0°27'W - 40.16 (G.L.O.)

N00°38'42"W 2700.24' (Meas.)

N00°19'04"W 2670.69' (Meas.)

1975
Brass Cap

13

Set Stone

N89°00'W - 40.53 (G.L.O.)

N89°00'W - 40.66 (G.L.O.)

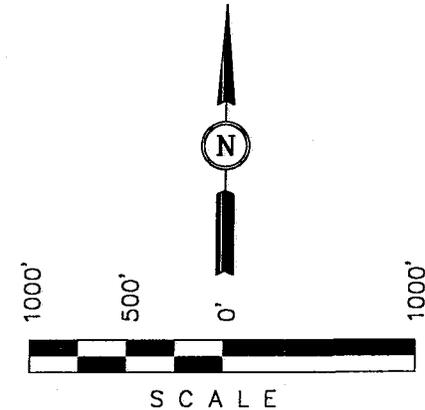
R
7
E

LEGEND:

└─┘ = 90° SYMBOL

● = PROPOSED WELL HEAD.

▲ = SECTION CORNERS LOCATED.



CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTRATION NO. 161219
REGISTERED LAND SURVEYOR
STATE OF UTAH

UINTAH ENGINEERING & LAND SURVEYING
85 SOUTH 200 EAST - VERNAL, UTAH 84078
(435) 789-1017

SCALE 1" = 1000'	DATE SURVEYED: 7-30-98	DATE DRAWN: 8-5-98
PARTY B.B. D.R. C.B.T.	REFERENCES G.L.O. PLAT	
WEATHER HOT	FILE CHANDLER & ASSOCIATES, INC.	

CHANDLER & ASSOCIATES, INC.
DRILLING PLAN FOR THE
SNOW #3(D)-13-19-7

I. DRILLING PLAN:

1. Geological Surface Formation: Blue Gate

2. Estimated Tops:

<u>Name</u>	<u>Top</u>	<u>Comments</u>
Ferron	1584	
Tununk	1828	
Dakota	2450	
Morrison	2960	
Entrada	3900	
Carmel	4660	
Navajo	5415	Injection Zone
T.D.	6000	

3. CASING PROGRAM:

	<u>Depth</u>	<u>Hole Size</u>	<u>Csg. Size</u>	<u>Type</u>	<u>Weight</u>
Surface	60'	17"	13-3/8"	H-40 LT&C	48#/ft (new)
Inter.	1900'	12 1/4"	9 5/8"	H-40 LT&C	32.3#/ft (new)
Liner	6000'	8 3/4"	7"	J-55 LT&C	23#/ft (new)

4. Operator's Specification for Pressure Control Equipment:

- A. 3,000 psi W.P. Double Gate BOP or Single Gate BOP (Schematic attached).
- B. Functional test daily.
- C. All casing strings shall be pressure-tested (0.2 psi/foot or 1500 psi, whichever is greater) prior to drilling the plug after cementing; test pressure shall not exceed the internal yield pressure of the casing.

Chandler & Associates, Inc.
Snow #3(D)-13-19-7

- D. All ram-type preventers and related control equipment shall be tested at the rated working pressure of the stack assembly or at 70 percent of the minimum internal yield pressure of the casing, whichever is less. Tests shall be done at the time of installation, prior to drilling out, and weekly. All tests shall be for a period of 15 minutes.

5. Auxiliary Equipment:

- A. Kelly Cock - yes.
- B. Float at the bit - no.
- C. Monitoring equipment on the mud system - visually.
- D. Full opening safety valve on rig floor - yes.
- E. Rotating head - no.
- F. The blooie line shall be a least 6" in diameter and extend at least 100' from the wellbore into the reserve/blooie pit.
- G. Blooie line ignition shall be provided by a continuous pilot (ignited when drilling below 500').
- H. Compressor shall be tied directly to the blooie line through a manifold.
- I. A mistor with a continuous stream of water shall be installed near the end of the blooie lines for dust suppression.

6. Proposed Circulating Medium:

<u>Depth</u>	<u>Mud Type</u>	<u>Density (lb./gal)</u>	<u>Viscosity</u>	<u>Water Loss</u>
0'-6000'	Fresh Water	8.4	-	-

7. Testing, Logging, and Coring Program:

- A. Cores - None anticipated.

Chandler & Associates, Inc.
 Snow #3(D)-13-19-7

- B. DST - none anticipated.
- C. Logging - CDL-Gamma Ray (1900' to base of surface casing).
 DILL & CDL-Gamma Ray (TD to 1800').
- D. Formation and Completion Interval: Navajo interval, final determination of completion will be made by analysis of logs.

 Stimulation - Stimulation will be designed for the particular area of interest as encountered.
- E. Frac gradient - approximately .80 psi/ft.

8. Cementing Program:

<u>Casing</u>	<u>Volume</u>	<u>Type & Additives</u>
Surface	100 sks	Class "G" plus 2 %CaCl ₂ (based on 100% access)
Inter	255 sks	Halco Lite + 1% Econolite + 0.25 lb./sks Flocele + 2% Microbond + 3% NaCl (12.4#/gal, Yield 2.05:1, Water 11.3 gal/sk)

Followed by:
280 sks

50:50 poz + 0.25 lb./sks Flocele + 0.4%
 Halad-322 + 2% Gel + 10% Salt
 (14.2#/gal, Yield 1.29:1, Water 5.72 gal/sk)

Liner 1st Stage 170 sks

Followed by:
140 sks

Hi Fill Modified + 0.75% Econolite + 0.25#/sk
 Flocele + 7.5#/gal Gilsonite = 1#/sk Granulite
 TR 1/4 + 16% Gel + 0.8% HR-7 + 3.0% NaCl
 11 #/gal, 3.81, Water 23.04 gal/sk
 50:50 poz. Cls "G" + .25#/sk Flocele + 0.40%
 Halad-322 + 2%Gel + 10.0% NaCl
 (14.2#/gal, Yield 1.29:1, Water 5.72 gal/sk.)

*per Ken Kundrik w Chandler,
10/26/98.*

Chandler & Associates, Inc.
Snow #3(D)-13-19-7

2nd Stage 100 sks

Halco Lite + 1% Econolite + .25#/sk. Flocele +
2% Microbond + 3% Salt
(12.4#/gal., Yield 2.05:1, Water 11.30 gal/sk

Followed by:
85 sks

Thixotropic + 10% Cal-Seal + 0.25 lb./sk. Flocele
(14.2#/gal., Yield 1.59:1, Water 7.87 gal/sk.

* Final cement volumes to be calculated from caliper log with an attempt to be made to circulate cement to the surface. A bond log will be run across the zone of interest and across zones as required by the authorized officer to insure protection of natural resources.

9. Anticipated Abnormal Pressures and Temperatures, Other Potential Hazards:

No abnormal temperatures or pressures are anticipated. No H₂S has been encountered in or known to exist from previous wells drilled to similar depths in the general area. Maximum anticipated bottom hole pressure equals approximately 1,500 psi (calculated at 0.250 psi/ft) and maximum anticipated surface pressure equals approximately 180 psi (bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/ft).

SURFACE USE PLAN
CHANDLER & ASSOCIATES, INC.
SNOW #3(D)-13-19-7

1. Existing Road:

- A. Topo Map "A" is the vicinity map, showing the access routes from Castle Dale, Utah.
- B. Topo Map "B" shows the proposed access road to each individual well. It also shows existing roads in the immediate area.
- C. The existing and proposed access road, unless otherwise stated, shall be crowned, ditched, and dipped from the nearest improved road.
- D. Occasional maintenance blading and storm repairs will keep roads in good condition.
- E. There shall be no mud blading on the access road. Vehicles may be towed through the mud provided they stay on the roadway.

2. Planned Access Roads:

The proposed access road, will be crowned, ditched, and dipped.

- A. Maximum grade will be 8% or less, unless otherwise stated.
- B. No turnouts will be required.
- C. Low water crossings to be placed in Proposed Access road during drilling process and culverts may be installed at a later date.
- D. Road surface material will be that native to the area.
- E. No cattle guard will be required.
- F. The proposed access road was flagged at the time the location was staked.
- G. The area authorized officer will be contacted at least 24 hours prior to commencing construction of the access road and well pad.
- H. The back slopes of the proposed access roads will be no steeper than vertical or 1/4:1 in rock; and 2:1, elsewhere.

The operator or his contractor will notify the State office at least 48 hours prior to commencement of any work on these locations, roadways, or pipelines.

3. Location of Existing Wells:

See Topographic Map "C"

4. Location of Existing and/or Proposed Facilities:

- A. All Petroleum Production Facilities are to be contained within the proposed location sites.
- B. In the event that production of these wells is established, the following will be shown:
 - 1. Proposed location and attendant lines, by flagging, if off well pad.
 - 2. Dimensions of facilities.
 - 3. Construction methods and materials.
- C. The area used to contain the proposed production facilities will be built using native materials. If these materials are not acceptable, then other arrangements will be made to acquire them from private sources. These facilities will be constructed using bulldozers, graders, and workman crews to construct and place the proposed facilities.
- D. All permanent facilities placed on the locations shall be painted a non-reflective color which will blend with the natural environment.
- E. A dike shall be constructed around the tank battery, of sufficient capacity to adequately contain at least 110 percent of the storage capacity of the largest tank within the dike.
- F. All buried pipelines shall be covered to a depth of 3 feet except at road crossings where they shall be covered to a depth of 4 feet.
- G. Construction width of the right-of way/pipeline route shall be restricted to 30

feet of disturbance.

- H. Pipeline location warning signs shall be installed within 90 days upon completion of construction.

5. Location and Type of Water Supply:

Any water to be used for the drilling of this well will be from the city of Castle Dale and transported by a local trucking company.

No water wells are to be drilled.

6. Source of Construction Materials:

- A. No construction materials are needed for drilling operations. In the event of production, the small amount of gravel needed for facilities will be hauled in by truck from a local gravel pit over existing access roads from the area. No special access other than for drilling operations and pipeline construction is needed.

- B. All access roads are described under item #2 and shown on Map #B.

All Construction material for these location sites and access roads shall be borrow material accumulated during the construction of the location sites and access roads. No additional construction material from other sources is anticipated at this time, but if it is required, the appropriate actions will be taken to acquire it from private sources.

- C. All well pad surface disturbance area is on FEE lands

7. Methods for Handling Waste Disposal:

- A. Drill cuttings will be buried in the reserve pit when covered.

- B. Drilling fluids will be contained in the reserve pit.

- C. Any hydrocarbon liquids produced while production testing will be contained in a test tank. Any unavoidable spills of oil or other adverse substances or materials will be removed immediately during drilling progress or during completion operations.

Chandler & Associates, Inc.
Snow #3(D)-13-19-7

- D. Portable chemical toilets will be provided and serviced by a local commercial sanitary service.
- E. Garbage and trash will be collected in a trash cage and its contents hauled to a sanitary landfill.

All wastes caused by the construction activities shall be promptly removed and disposed of in a sanitary landfill or as directed by the authorized officer.

- F. Prior to commencement of drilling, the reserve pit will be fenced on three sides using 39-inch net wire with at least one (1) strand of barbed wire. All wire is to be stretched before attaching to corner posts. When drilling activities are completed it will be fenced on the fourth side and allowed to dry (if liquids are present). After drying, the fences will be removed and the pit shall be buried. Reclamation will be undertaken no later than the fall of the year after all drilling activity has ceased.

8. Ancillary Facilities:

No air strips, camps, or other living facilities will be built off the location. Housing and office trailers will be on the location as seen on the location layout.

9. Well Site Layout:

- A. See attached cutsheet.
- B. The areas authorized officer will be contacted at least 24 hours prior to commencing construction of the access road and well pad.
- C. The authorized officer will determine after the location is constructed whether the pit is to be lined, and if so, the type of material to be used.
- D. Topsoil shall be stripped to a depth of 4 to 6 inches and stockpiled as shown on the location layout plat.
- E. The back slopes of the locations will be no steeper than vertical or 1/4:1 in rock, and 2:1 elsewhere.
- F. The upper edges of all cut banks on the access roads and well pads will be rounded.

G. Catchment ponds to be placed as required to intercept drainage re-routes.

10. Plans for Restoration:

- A. Immediately upon completion, the location and surrounding area will be cleared of all debris, materials, trash and junk not required for production.
- B. Before any dirt work to restore the location takes place, the reserve pit must be completely dry. The reserve pit will be reclaimed within 90 days from the date of well completion.
- C. The area officer shall be notified at least 48 hours prior to commencing reclamation work.
- D. All disturbed areas will be seeded with the a mixture which is found suitable by the State.
- E. The seed bed will be prepared by disking, following the natural contour. Drill seed on contour at a depth no greater than ½ inch. In areas that cannot be drilled, the seed will be broadcast at double the seeding rate and harrowed into soil. Certified seed is recommended.
- F. Fall seeding will be completed after September, and prior to prolonged ground frost.

Chandler & Associates, Inc.
Snow #3(D)-13-19-7

- G. If the well is a producer, access roads will be upgraded and maintained as necessary to prevent soil erosion, and accommodate year round traffic. Areas unnecessary to operations will be reshaped, topsoil distributed, and seed distributed according to the above mixtures. Perennial vegetation must be established. Additional work shall be required in case of seeding failures, etc.
- H. If the well is abandoned or is a dry hole, the access road and location will be restored to approximate the original contours. During reclamation of the site the fill material will be pushed into cuts and up over the backslope. No depressions will be left that would trap water or form ponds. Topsoil will be distributed evenly over the location and seeded according to the above mixture. The access road and the location shall be ripped or disked prior to seeding. Perennial vegetation must be established. Additional work shall be required in case of seeding failures, etc.
- I. Annual or noxious weeds shall be controlled on all disturbed areas. Method of control shall be by an approved mechanical method or an Environmental Protection Agency (EPA) registered herbicide. All herbicide application proposals must be approved. Application of herbicides must be under direct field supervision of an EPA certified pesticide applicator.

11. Other Information:

- A. The area is used by man for the primary purpose of grazing domestic livestock.

All activity shall cease when soils or road surfaces become saturated to a depth of three inches, unless otherwise approved by the Authorized Officer.

If any fossils are discovered during construction, the operator shall cease construction immediately and notify the Authorized Officer so as to determine the significance of the discovery.

- B. Surface ownership is FEE.

Chandler & Associates, Inc.
Snow #3(D)-13-19-7

- C. The State considers the development of groundwater resources to be necessary and frequently indispensable to effective land management. Therefore, any groundwater intercepted by the party conducting mineral exploration shall be reported to the authorized officer immediately including approximate quantities and a sample in a sealed quart container. The B.L.M. shall have the first opportunity to file State water rights for the intercepted groundwater. The undersigned may file for water rights only with a written waiver from the State.
- D. The operator is responsible for informing all persons in the area who are associated with this project that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during construction, the operator is to immediately stop work that might further disturb such materials and contact the authorized officer (AO). Within five working days the AO will inform the operator as to whether the materials appear eligible for the National Register of Historic Places; the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary); and a time frame for the AO to complete an expedited review under 36 CFR 800-11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate.
- If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation costs. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, an operator will then be allowed to resume construction.
- E. Less than 10,000 pounds of any chemical(s) from EPA's Consolidated list of Chemicals Subject to Reporting Under Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986, and less than threshold planning quantity (TPQ) of any extremely hazardous substances(s), as defined in 40 CFR, would be used, produced, transported, stored, disposed, or associated with the proposed action.

Chandler & Associates, Inc.
Snow #3(D)-13-19-7

12. Lessee's or Operator's Representative:

Mr. Terry J. Cox
Vice President of Operations/Production
Chandler & Associates, Inc.
475 Seventeenth Street
Suite 1000
Denver, Colorado 80202
Telephone #(303)295-0400

13. Certification:

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite(s) and access route(s); that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and, that the work associated with the operations proposed herein will be performed by **Chandler & Associates, Inc.**, and its contractors and subcontractors in conformity with the plan and the terms and conditions under which it is approved.

This statement is subject to the provision of 18 U.S.C. 1001 for the filing of a false statement.

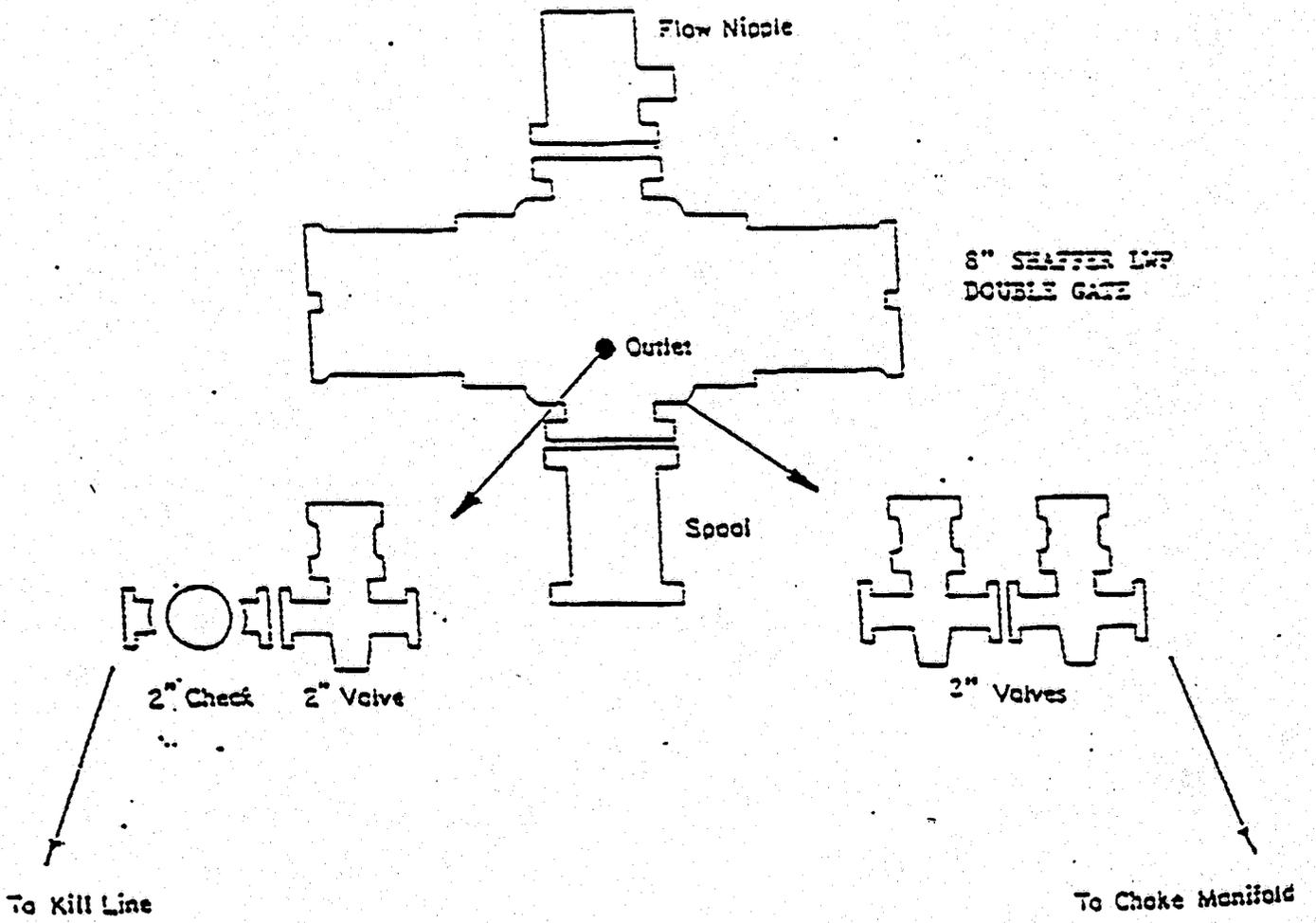
8-21-98

Date



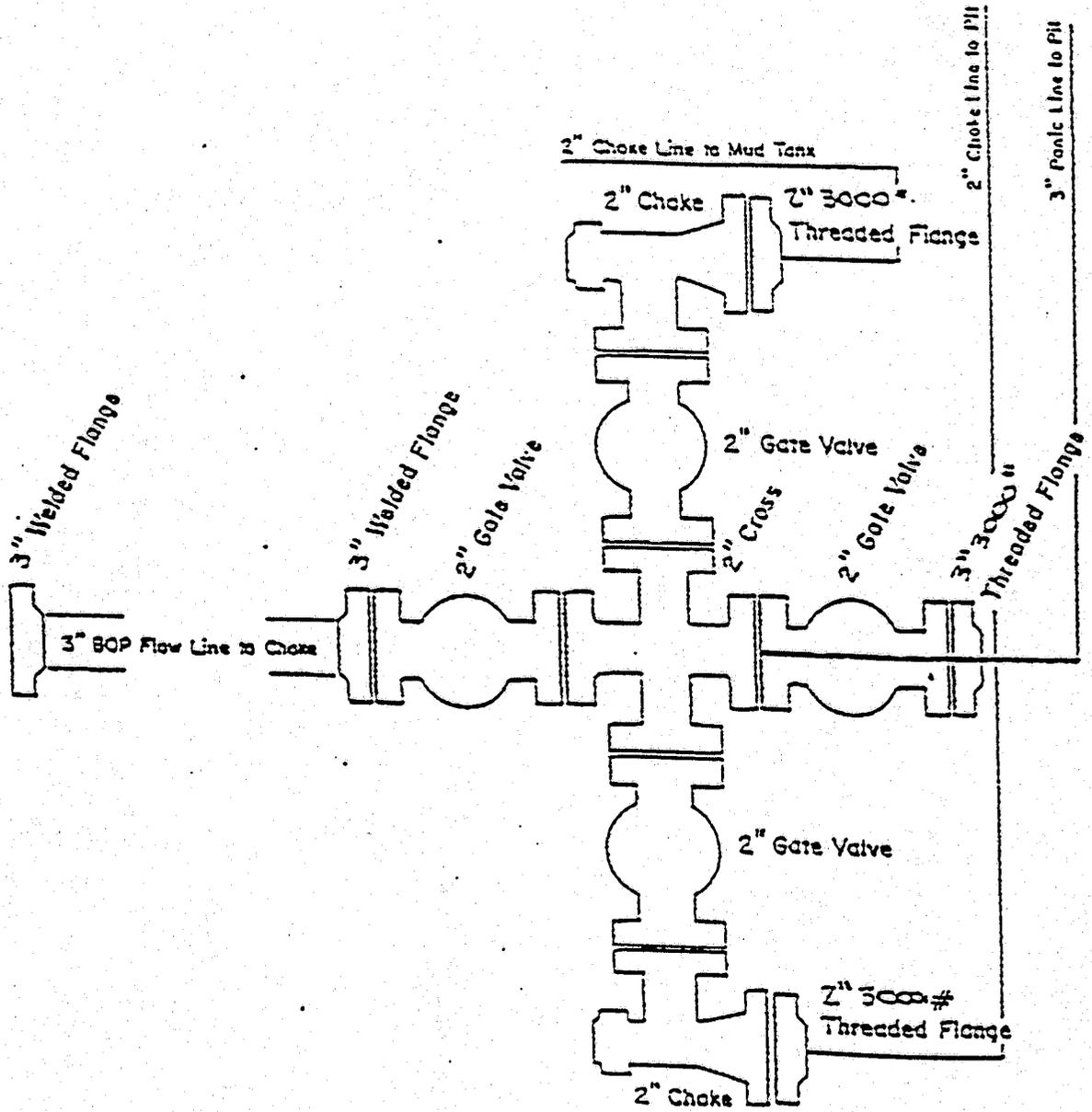
Tracy D. Henline / U.E.L.S.
Agent for Chandler

CHANDLER DRILLING
RIG NO.7



CHANDLER DRILLING

RIG NO.7



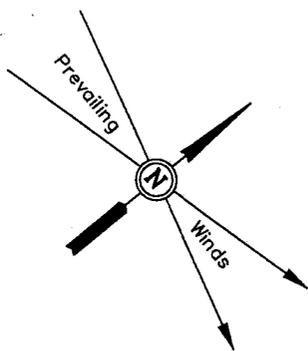
CHANDLER & ASSOCIATES, INC.

LOCATION LAYOUT FOR

SNOW #3(D)-13-19-7

SECTION 13, T19S, R7E, S.L.B.&M.

473' FNL 1972' FWL



SCALE: 1" = 50'
DATE: 8-6-98
Drawn By: C.B.T.



NOTE:

Flare Pit is to be located a min. of 100' from the Well Head.

El. 52.7'
C-7.2'
(btm. pit)

Pit Capacity With 2' of Freeboard is ±4110 Bbls.

El. 51.6'
C-6.1'
(btm. pit)

El. 50.4'
F-3.1'

C-1.6'
El. 55.1'

C-3.2'
El. 56.7'

C-2.3'
El. 55.8'

C-1.0'
El. 54.5'

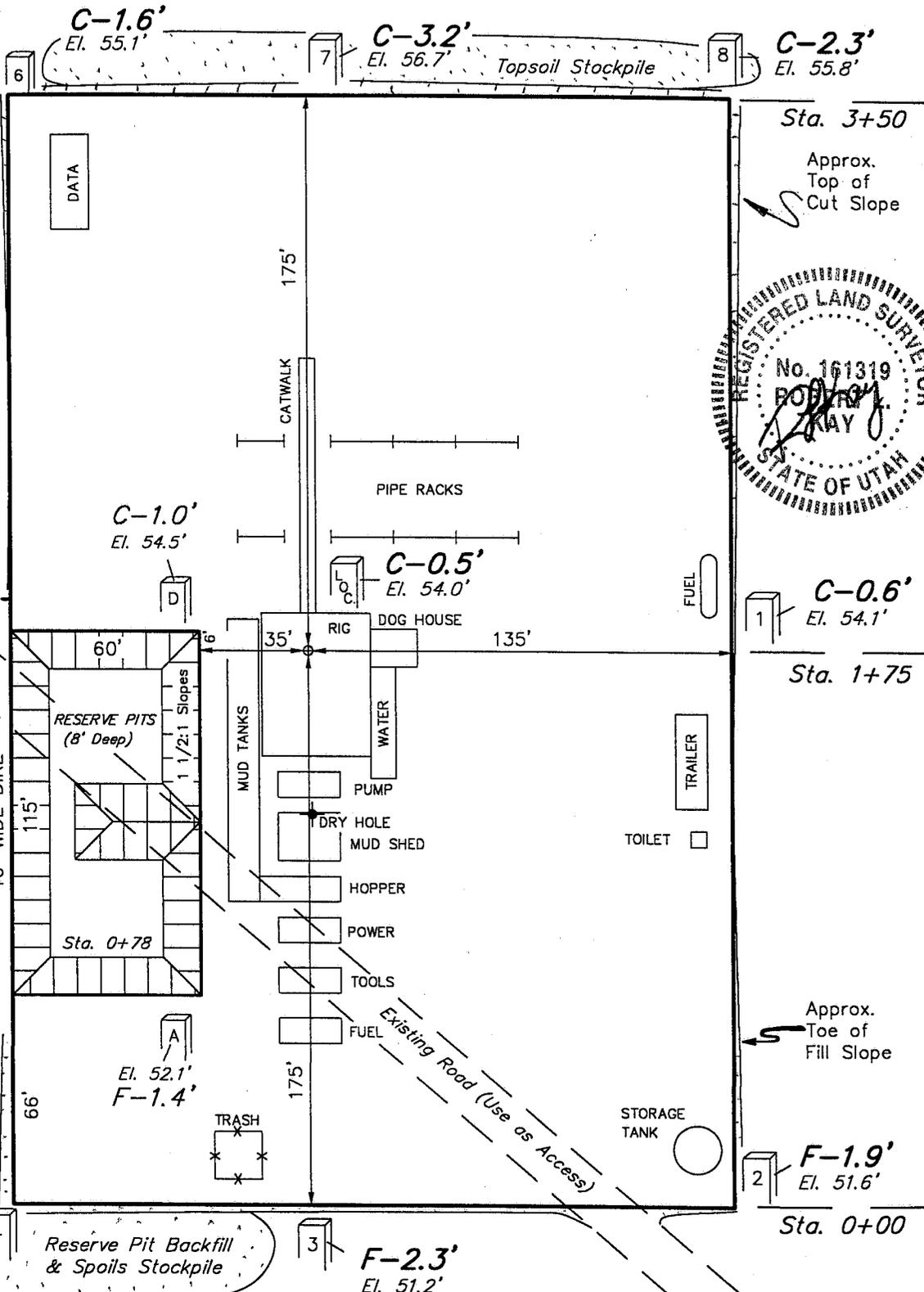
C-0.5'
El. 54.0'

C-0.6'
El. 54.1'

El. 52.1'
F-1.4'

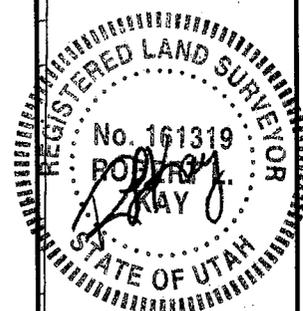
F-2.3'
El. 51.2'

F-1.9'
El. 51.6'



Sta. 3+50

Approx. Top of Cut Slope



Sta. 1+75

Approx. Toe of Fill Slope

Sta. 0+00

Reserve Pit Backfill & Spoils Stockpile

Elev. Ungraded Ground at Location Stake = 5854.0'

Elev. Graded Ground at Location Stake = 5853.5'

UINTAH ENGINEERING & LAND SURVEYING
85 So. 200 East * Vernal, Utah 84078 * (435) 789-1017

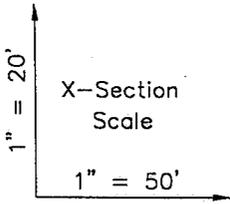
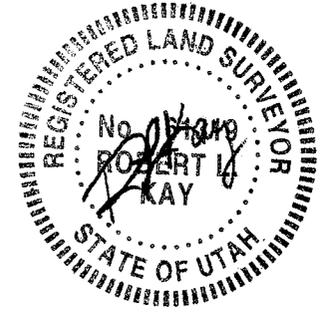
CHANDLER & ASSOCIATES, INC.

TYPICAL CROSS SECTIONS FOR

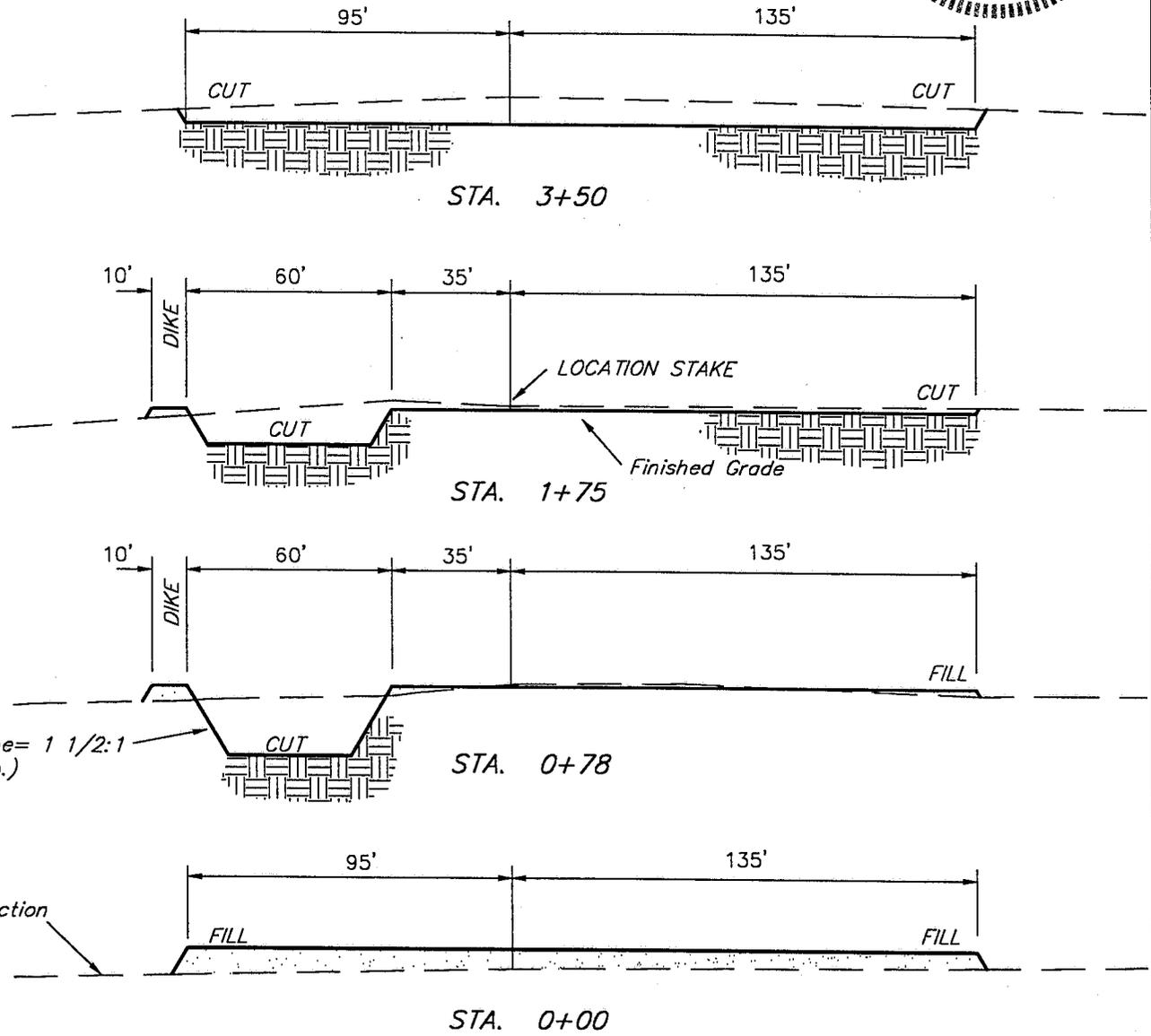
SNOW #3(D)-13-19-7

SECTION 13, T19S, R7E, S.L.B.&M.

473' FNL 1972' FWL



DATE: 8-6-98
Drawn By: C.B.T.

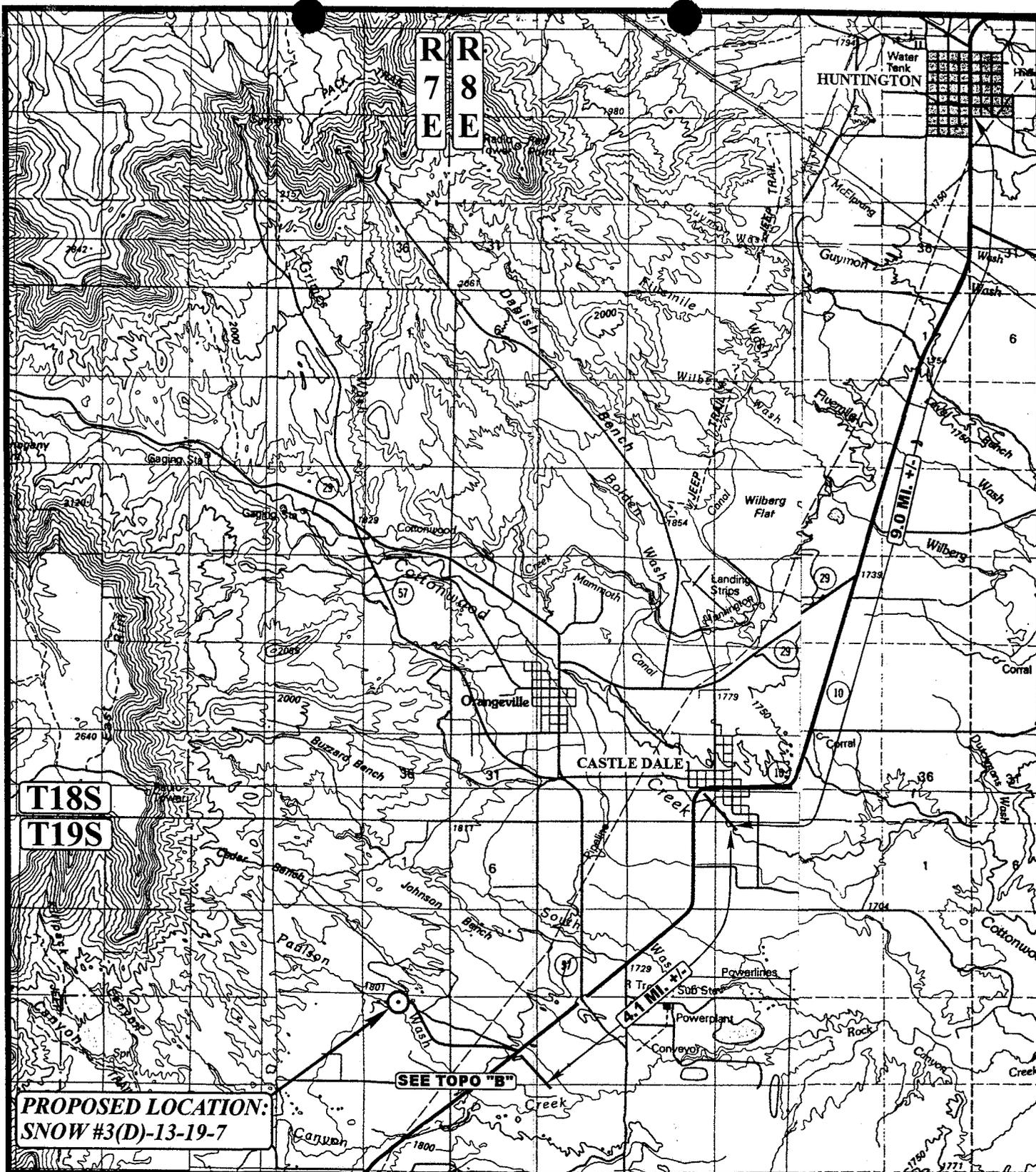


APPROXIMATE YARDAGES

(6") Topsoil Stripping = 1,490 Cu. Yds.
Remaining Location = 3,020 Cu. Yds.

TOTAL CUT = 4,510 CU.YDS.
FILL = 1,520 CU.YDS.

EXCESS MATERIAL AFTER 5% COMPACTION = 2,910 Cu. Yds.
Topsoil & Pit Backfill (1/2 Pit Vol.) = 2,230 Cu. Yds.
EXCESS UNBALANCE (After Rehabilitation) = 680 Cu. Yds.



T18S
T19S

R7E
R8E

PROPOSED LOCATION:
SNOW #3(D)-13-19-7

SEE TOPO "B"

LEGEND:
○ PROPOSED LOCATION

CHANDLER & ASSOCIATES, INC.
SNOW #3(D)-13-19-7
SECTION 13, T19S, R7E, S.L.B.&M.
473' FNL 1972' FWL

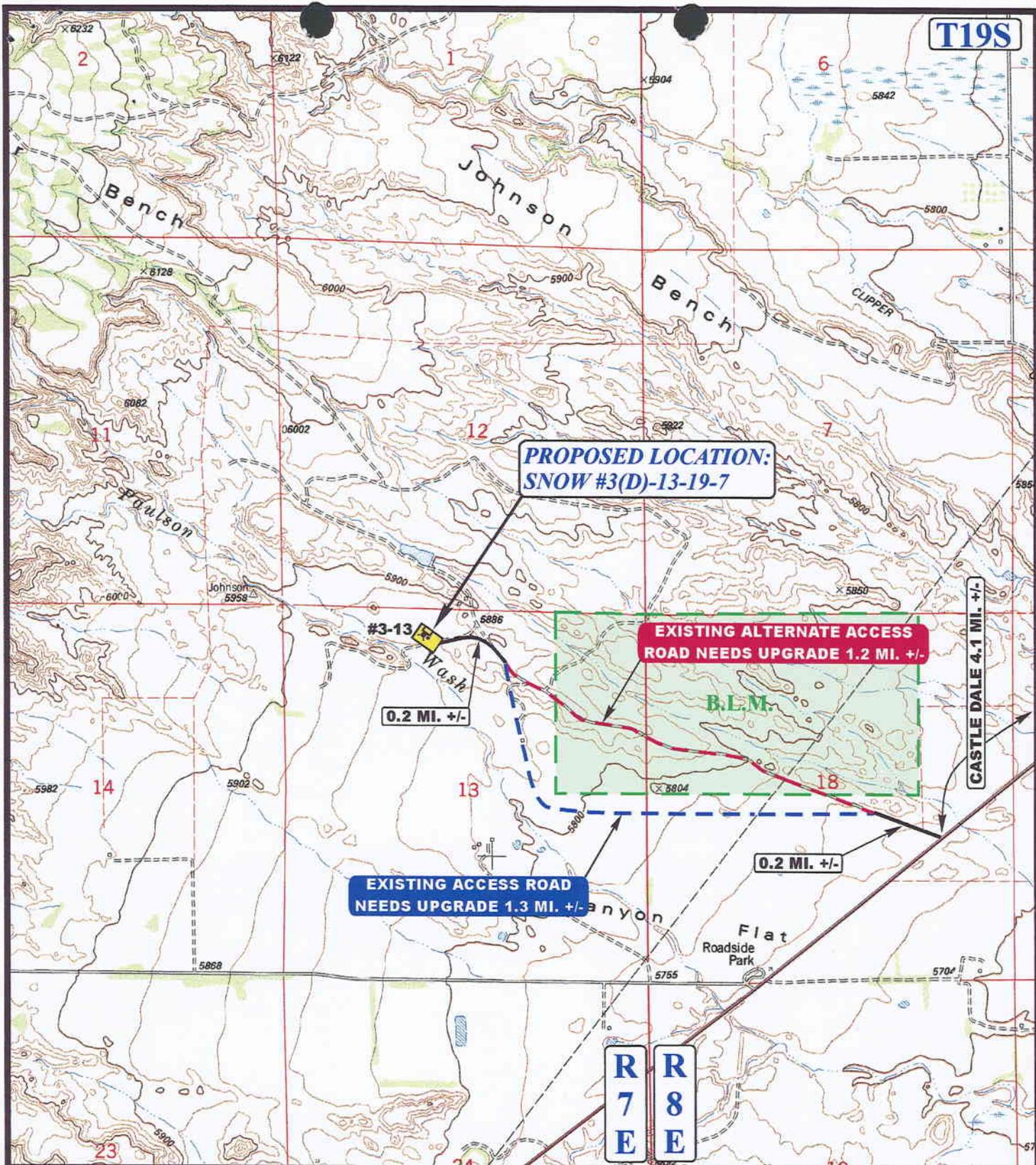


Utah Engineering & Land Surveying
85 South 200 East Vernal, Utah 84078
(435) 789-1017 * FAX (435) 789-1813



TOPOGRAPHIC **8** **7** **98**
MAP MONTH DAY YEAR
SCALE: 1:100,000 | DRAWN BY: D.COX | REVISED: 00-00-00





LEGEND:

- PROPOSED ACCESS ROAD
- EXISTING ROAD

CHANDLER & ASSOCIATES, INC.

SNOW #3(D)-13-19-7
SECTION 13, T19S, R7E, S.L.B.&M.
473' FNL 1972' FWL



Uintah Engineering & Land Surveying
 85 South 200 East Vernal, Utah 84078
 (435) 789-1017 * FAX (435) 789-1813



TOPOGRAPHIC **8** **7** **98**
MAP MONTH DAY YEAR
 SCALE: 1" = 2000' DRAWN BY: D.COX REVISED: 00-00-00



WORKSHEET
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 08/24/98

API NO. ASSIGNED: 43-015-30339

WELL NAME: SNOW 3(D)-13-19-7
 OPERATOR: CHANDLER & ASSOCIATES (N3320)
 CONTACT: Tracy Henline (303) 295-0400
 Terry Cox - left message 10-31

PROPOSED LOCATION:
 NENW 13 - T19S - R07E
 SURFACE: 0473-FNL-1972-FWL
 BOTTOM: 0473-FNL-1972-FWL
 EMERY COUNTY
 UNDESIGNATED FIELD (002)

INSPECT LOCATION BY: / /		
TECH REVIEW	Initials	Date
Engineering	<i>RSK</i>	<i>10-26-98</i>
Geology		
Surface		

LEASE TYPE: Fee
 LEASE NUMBER:
 SURFACE OWNER: Fee

PROPOSED FORMATION: NAVA

RECEIVED AND/OR REVIEWED:

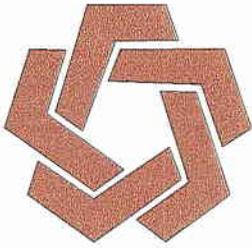
Plat
 Bond: Federal [] State [] Fee
 (No. A5857)
 Potash (Y/N)
 Oil Shale (Y/N) *190-5(B)
 Water Permit
 (No. City of Castle Dale)
 RDCC Review (Y/N)
 (Date: _____)
 St/Fee Surf Agreement (Y/N)

LOCATION AND SITING:

____ R649-2-3. Unit _____
 R649-3-2. General
 ____ R649-3-3. Exception _____
 ____ Drilling Unit
 ____ Board Cause No: _____
 ____ Date: _____

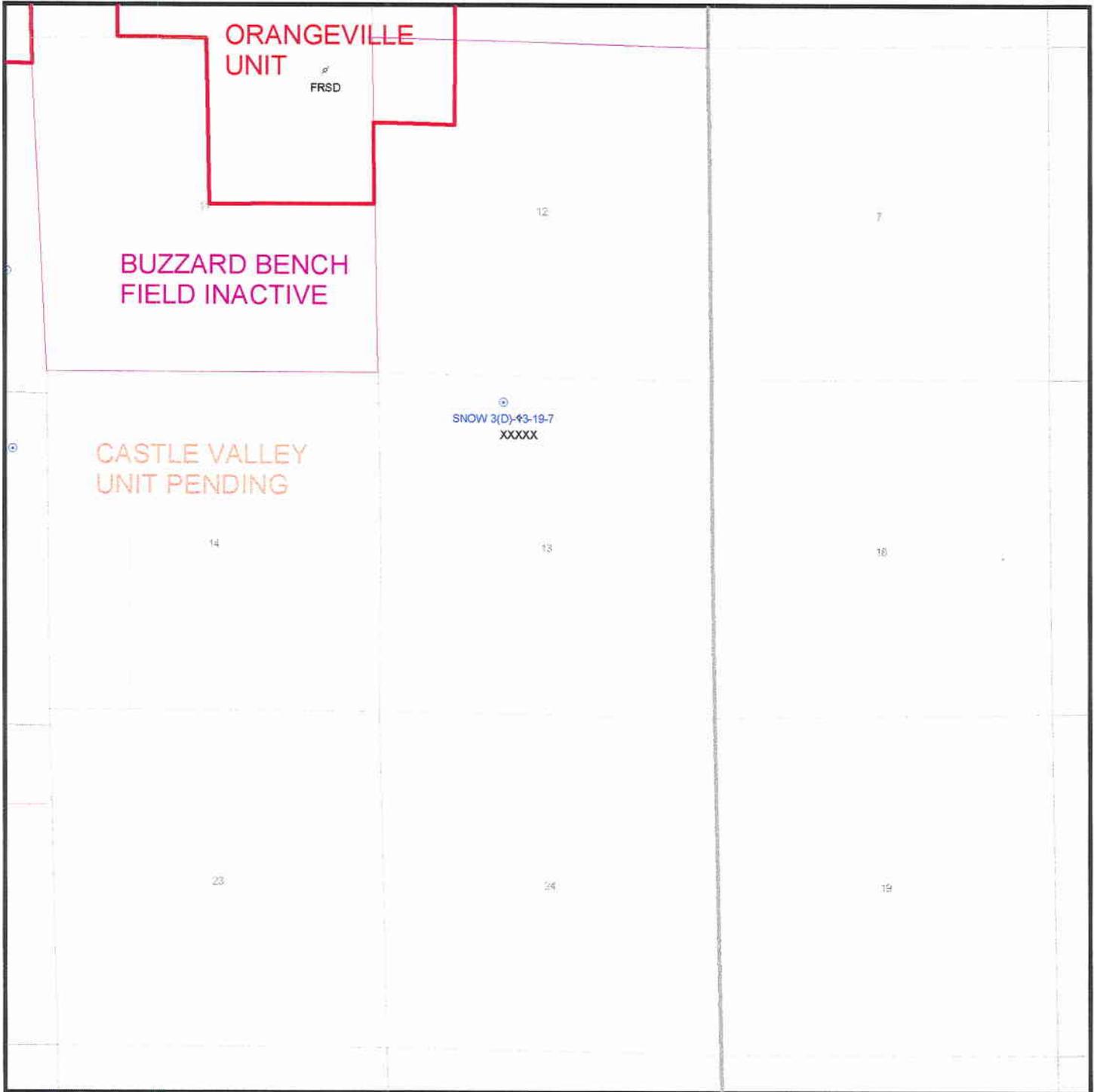
COMMENTS: * Need Presite.

STIPULATIONS: FOR - NONE
 ① STATEMENT OF BASIS



DIVISION OF OIL, GAS & MINING

OPERATOR: CHANDLER & ASSOCIATES (N3320)
FIELD: UNDESIGNATED (002)
SEC. 13, TWP 19S, RNG 7E
COUNTY: EMERY



DATE PREPARED:
1-SEP-1998

DIVISION OF OIL, GAS AND MINING
APPLICATION FOR PERMIT TO DRILL
STATEMENT OF BASIS

Operator Name: Chandler and Associates

Name & Number: Snow 3(D)-13-19-7

API Number: 43-015-30339

Location: 1/4, 1/4 NE NW Sec. 13 T. 19S R. 7E

Geology/Ground Water:

There are no aquifers with high quality ground water expected to be encountered in the bedrock or the thin, poorly-permeable Slope Wash. The proposed casing and cement program will adequately isolate any zones of water penetrated.

Reviewer: Christopher J. Kierst **Date:** 10/9/98

Surface:

The Mancos Shale soil is relatively impermeable, stable and not deeply incised or undermined on, or immediately beside, the disturbed area. A small dry wash is beside the southwest side of the location. The nearest moving surface waters are in a canal just west of the intersection of the approach road and Highway 10 (~1.5 miles east of location). Because of the topographic setting the drainage basin is limited so flash-flooding is unlikely to be a serious problem. There are no nearby culinary or irrigation water supply wells. A fresh water supply pipeline, of as yet unknown diameter and burial depth, clips the western corner of the location and an associated water tap is nearby, off the location, on a low knoll to the southwest. The site was photographed and characterized on 10/7/98. Provision was made to ensure site rehabilitation, litter and waste control, preservation of drainage patterns and the integrity of local infrastructure, groundwater and other resources. The well utilities and gas gathering system will usually follow the approach roadway but will go cross country when necessary.

Reviewer: Christopher J. Kierst **Date:** 10/9/98

Conditions of Approval/Application for Permit to Drill:

- 1) Culverts sufficient to manage expected runoff, standing and surface water shall be installed in crossed drainages.
- 2) Install berm around the location and pit.
- 3) Site infrastructure as per amended drilling location plat.
- 4) A synthetic liner with a minimum thickness of 12 mils shall be installed in the reserve pit.

Well name: **Chandler Snow #3(D)-13-19-7**
 Operator: **Chandler**
 String type: **Surface**
 Location: **Emery Co.**
 Project ID: **43-015-30339**

Design parameters:

Collapse
 Mud weight: 8.330 ppg
 Design is based on evacuated pipe.

Burst
 Max anticipated surface pressure: 0 psi
 Internal gradient: 0.433 psi/ft
 Calculated BHP: 26 psi
 No backup mud specified.

Minimum design factors:

Collapse:
 Design factor: 1.125

Burst:
 Design factor: 1.00

Tension:
 8 Round STC: 1.80 (J)
 8 Round LTC: 1.80 (J)
 Buttress: 1.60 (J)
 Premium: 1.50 (J)
 Body yield: 1.50 (B)

Tension is based on buoyed weight.
 Neutral point: 53 ft

Environment:

H2S considered? No
 Surface temperature: 75 °F
 Bottom hole temperature: 76 °F
 Temperature gradient: 1.40 °F/100ft
 Minimum section length: 60 ft

Cement top: Surface

Non-directional string.

Re subsequent strings:

Next setting depth: 7,500 ft
 Next mud weight: 8.330 ppg
 Next setting BHP: 3,245 psi
 Fracture mud wt: 19.250 ppg
 Fracture depth: 7,500 ft
 Injection pressure: 7,500 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	60	13.375	48.00	H-40	ST&C	60	60	12.59	744
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	26	740	28.50	26	1730	66.63	2.5	322	99.99 J

Prepared by: RJK
 Department of Natural Resources

Phone:
 FAX:

Date: October 26, 1998
 State of Utah

ENGINEERING STIPULATIONS: NONE

Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.
 Collapse is based on a vertical depth of 60 ft, a mud weight of 8.33 ppg. The casing is considered to be evacuated for collapse purposes.
 Burst strength is not adjusted for tension.

Engineering responsibility for use of this design will be that of the purchaser.

Well name:	Chandler Snow #3(D)-13-19-7	
Operator:	Chandler	Project ID:
String type:	Intermediate	43-015-30339
Location:	Emery Co.	

Design parameters:

Collapse
Mud weight: 8.330 ppg
Design is based on evacuated pipe.

Minimum design factors:

Collapse:
Design factor 1.125

Environment:

H2S considered? No
Surface temperature: 75 °F
Bottom hole temperature 102 °F
Temperature gradient: 1.40 °F/100ft
Minimum section length: 60 ft

Burst

Max anticipated surface pressure: 0 psi
Internal gradient: 0.433 psi/ft
Calculated BHP 822 psi

Burst:

Design factor 1.00

Cement top: Surface

No backup mud specified.

Tension:

8 Round STC: 1.80 (J)
8 Round LTC: 1.80 (J)
Buttress: 1.60 (J)
Premium: 1.50 (J)
Body yield: 1.50 (B)

Non-directional string.

Tension is based on buoyed weight.
Neutral point: 1,667 ft

Re subsequent strings:

Next setting depth: 7,500 ft
Next mud weight: 8.330 ppg
Next setting BHP: 3,245 psi
Fracture mud wt: 19.250 ppg
Fracture depth: 7,500 ft
Injection pressure 7,500 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	1900	9.625	32.30	H-40	ST&C	1900	1900	8.876	15709
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	822	1370	1.67	822	2270	2.76	53.9	254	4.72 J

Prepared by: RJK
Department of Natural Resources

Phone:
FAX:

Date: October 26, 1998
State of Utah

ENGINEERING STIPULATIONS: NONE

Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.
Collapse is based on a vertical depth of 1900 ft, a mud weight of 8.33 ppg The casing is considered to be evacuated for collapse purposes.
Burst strength is not adjusted for tension.

Engineering responsibility for use of this design will be that of the purchaser.

Well name:	Chandler Snow #3(D)-13-19-7	
Operator:	Chandler	Project ID:
String type:	Production	43-015-30339
Location:	Emery Co.	

Design parameters:

Collapse
Mud weight: 8.330 ppg
Design is based on evacuated pipe.

Minimum design factors:

Collapse:
Design factor 1.125

Environment:

H2S considered? No
Surface temperature: 75 °F
Bottom hole temperature 159 °F
Temperature gradient: 1.40 °F/100ft
Minimum section length: 60 ft

Burst

Max anticipated surface pressure: 0 psi
Internal gradient: 0.433 psi/ft
Calculated BHP 2,596 psi

Burst:
Design factor 1.00

Cement top: 4,452 ft

No backup mud specified.

Tension:
8 Round STC: 1.80 (J)
8 Round LTC: 1.80 (J)
Buttress: 1.60 (J)
Premium: 1.50 (J)
Body yield: 1.60 (B)

Non-directional string.

Tension is based on buoyed weight.
Neutral point: 5,248 ft

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	6000	7	23.00	J-55	LT&C	6000	6000	6.25	31480

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	2596	3270	1.26	2596	4360	1.68	120.7	313	2.59 J

Prepared RJK
by: Department of Natural Resources

Phone:
FAX:

Date: October 26, 1998
State of Utah

ENGINEERING STIPULATIONS: NONE
Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.
Collapse is based on a vertical depth of 6000 ft, a mud weight of 8.33 ppg. The casing is considered to be evacuated for collapse purposes.
Burst strength is not adjusted for tension.

Engineering responsibility for use of this design will be that of the purchaser.

Chandler Snow #3(D)-13-19-7

Casing Schematic

Surface

13-3/8"
MW 8.3
Frac 19.3

9-5/8"
MW 8.3
Frac 19.3

7"
MW 8.3

TOC @
Surface

TOC @
Surface
60. MD

To surface
with 35%
washout

$$\text{Capacity} = (.1746 \frac{\text{ft}^3}{\text{ft}}) \times (1900 \text{ft}) = 332 \text{ft}^3$$

To surface w/
8% washout.

Intermediate
1900. MD

TOC @
4452.

$$\text{Capacity} = 0.1503 \frac{\text{ft}^3}{\text{ft}}$$

$$(4100 \text{ft}) (0.1503 \frac{\text{ft}^3}{\text{ft}}) = 616 \text{ft}^3$$

First ~~Second~~ Stage

$$(170 \text{SKS}) (3.81 \frac{\text{ft}^3}{\text{SK}}) + (140 \text{SKS}) (1.29 \frac{\text{ft}^3}{\text{SK}}) = 828 \text{ft}^3$$

fillup
2nd stage

OR to enter
into program.

$$416 \text{SKS} @ 2.0 \frac{\text{ft}^3}{\text{SK}} = \text{MIX 1}$$

Production
6000. MD

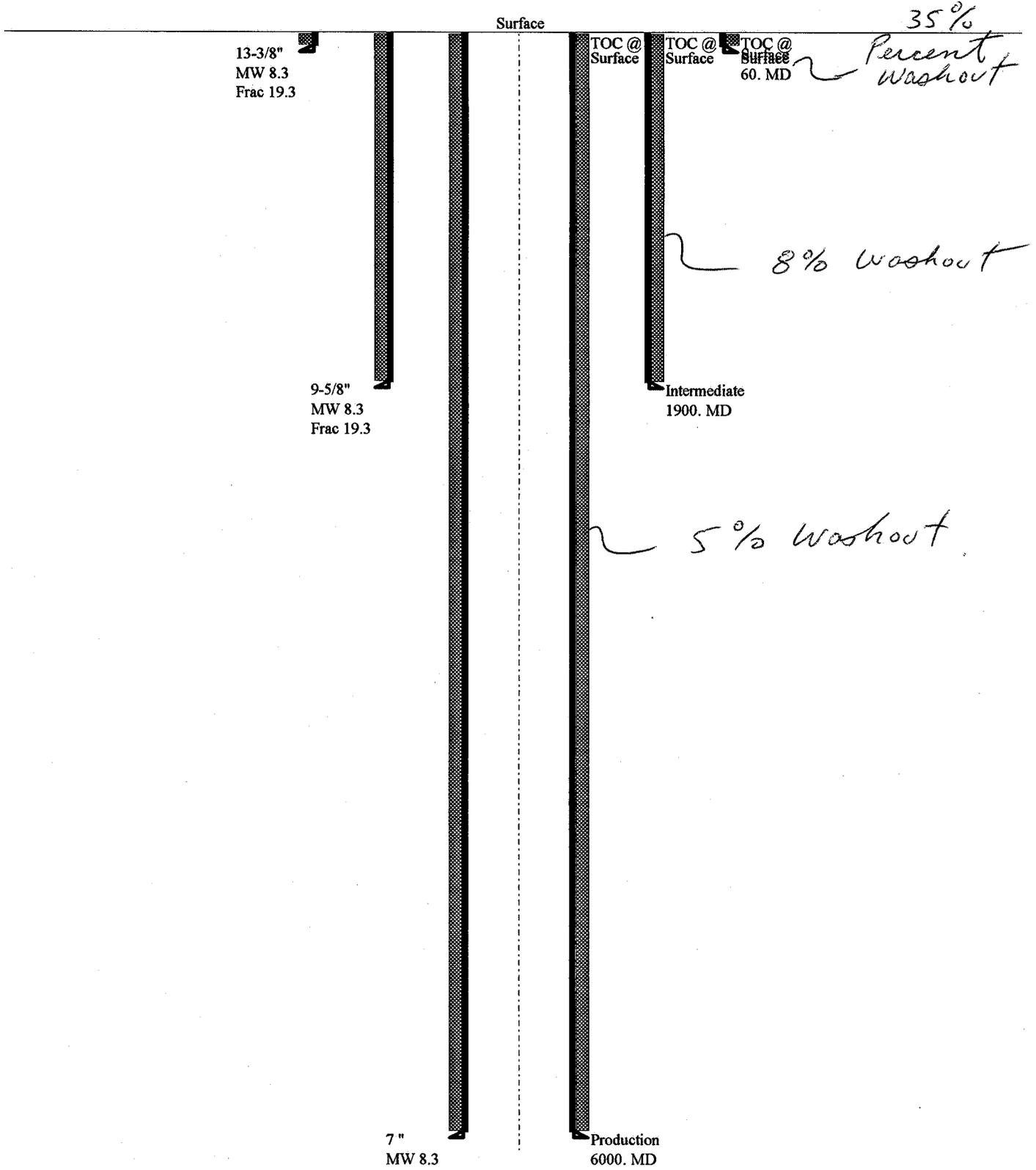
$$(100 \text{SKS}) (2.05 \frac{\text{ft}^3}{\text{SK}}) + (85 \text{SKS}) (1.59 \frac{\text{ft}^3}{\text{SK}}) = 340 \text{ft}^3$$

Call
MIX 2

$$\text{OR } 189 \text{SKS} @ 1.8 \frac{\text{ft}^3}{\text{SK}} \text{ for program.}$$

Chandler Snow #3(D)-13-19-7

Casing Schematic



ON-SITE PREDRILL EVALUATION

Division of Oil, Gas and Mining

OPERATOR: Chandler & Associates, Inc.

WELL NAME & NUMBER: Snow 3(D)-13-19-7

API NUMBER: 43-015-30339

LEASE: Fee FIELD/UNIT: Buzzard's Bench

LOCATION: 1/4,1/4 NE NW Sec: 13 TWP: 19S RNG: 7E 473 FNL 1972 FWL

LEGAL WELL SITING: F SEC. LINE; F 1/4,1/4 LINE; F ANOTHER WELL.

GPS COORD (UTM): 492,472; 4,336,031

SURFACE OWNER: PacifiCorp Division Property Management of UP&L

PARTICIPANTS

C. Kierst (DOGM), Brent Arnold(PacifiCorp), Jim Simonton(Chandler), Bryant Anderson(Emery Co.), Don Allred and Clayton Thacker(Uintah Engr. Surveyors)

REGIONAL/LOCAL SETTING & TOPOGRAPHY

Western margin of Colorado Plateau; Mancos Shale lowlands east of Wasatch Plateau (8 miles east); 3 miles east of upper bench; 1 mile east of lower bench. Situated amongst Mancos Shale erosional remnants, probably topped with pediment mantle.

SURFACE USE PLAN

CURRENT SURFACE USE: Reclaimed drill location w/ flat plate PA marker.

PROPOSED SURFACE DISTURBANCE: 350' X 230' pad with inboard 115' X 60' X 8' pit and approximately 1.3 mile long existing upgradable approach road.

LOCATION OF EXISTING WELLS WITHIN A 1 MILE RADIUS: Snow 3-13-19-7 (PA; TD 1975') on location!

LOCATION OF PRODUCTION FACILITIES AND PIPELINES: Production facilities will remain on location and pipelines will be placed on acquired

rights-of-way.

SOURCE OF CONSTRUCTION MATERIAL: Gravel location and approach road with native materials from construction from location and access road or from private sources.

ANCILLARY FACILITIES: 4 ac. location will eventually include a compressor facility and a pipeline staging area.

WASTE MANAGEMENT PLAN:

Portable chemical toilets serviced locally; trash cages which will be emptied into an approved sanitary landfill.

ENVIRONMENTAL PARAMETERS

AFFECTED FLOODPLAINS AND/OR WETLANDS: None

FLORA/FAUNA: tumbleweed, / bugs, birds, lizards, coyotes, rodents.

SOIL TYPE AND CHARACTERISTICS: Poorly-permeable soil on Quaternary Slope Wash over Blue Gate Shale Member of the Mancos Shale (SM-SC).

SURFACE FORMATION & CHARACTERISTICS: Blue Gate Shale Member of the Mancos Shale (light gray, bentonitic shale and sandstone ledges).

EROSION/SEDIMENTATION/STABILITY: stable ground

PALEONTOLOGICAL POTENTIAL: None observed.

RESERVE PIT

CHARACTERISTICS: natural soil, dugout and bermed to deflect runoff.

LINER REQUIREMENTS (Site Ranking Form attached): Minimum 12 mil synthetic liner.

SURFACE RESTORATION/RECLAMATION PLAN

As per Surface Owner Agreement (Memorandum of Lease Agreement).

SURFACE AGREEMENT: Surface Owner Agreement on file.

CULTURAL RESOURCES/ARCHAEOLOGY: None needed.

OTHER OBSERVATIONS/COMMENTS

Land owner's representative's comments:1-Prefer that the access road over BLM land be upgraded rather than disturbing the reclaimed original approach road to the PA'd Snow 3-13-19-7 well. 2-He asks who the authorized officer cited in the Surface Use Plan (2-G) is (this language refers to a FEDERAL employee only!)? 3-Notify Pacificorp representative of any fresh water encountered during drilling. A fresh water supply pipeline clips the west corner of the location, entering the location at the NW side and exiting the southwest side.

ATTACHMENTS:

4 Photographs taken.

Chris Kierst
DOGM REPRESENTATIVE

10/7/98 12:20 PM
DATE/TIME

Evaluation Ranking Criteria and Ranking Score
For Reserve and Onsite Pit Liner Requirements

<u>Site-Specific Factors</u>	<u>Ranking</u>	<u>Site Ranking</u>
Distance to Groundwater (feet)		
>200	0	
100 to 200	5	
75 to 100	10	
25 to 75	15	
<25 or recharge area	20	<u>0</u>
Distance to Surf. Water (feet)		
>1000	0	
300 to 1000	2	
200 to 300	10	
100 to 200	15	
< 100	20	<u>2</u>
Distance to Nearest Municipal Well (feet)		
>5280	0	
1320 to 5280	5	
500 to 1320	10	
<500	20	<u>0</u>
Distance to Other Wells (feet)		
>1320	0	
300 to 1320	10	
<300	20	<u>20</u>
Native Soil Type		
Low permeability	0	
Mod. permeability	10	
High permeability	20	<u>5</u>
Fluid Type		
Air/mist	0	
Fresh Water	5	
TDS >5000 and <10000	10	
TDS >10000 or Oil Base Mud Fluid	15	
containing significant levels of hazardous constituents	20	<u>0</u>
Drill Cuttings		
Normal Rock	0	
Salt or detrimental	10	<u>0</u>
Annual Precipitation (inches)		
<10	0	
10 to 20	5	
>20	10	<u>5</u>
Affected Populations		
<10	0	
10 to 30	6	
30 to 50	8	
>50	10	<u>0</u>
Presence of Nearby Utility Conduits		
Not Present	0	
Unknown	10	
Present	15	<u>15</u>

Final Score

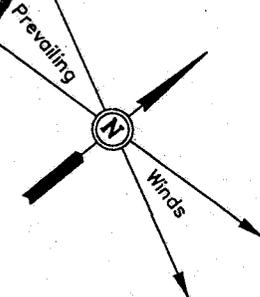
47

(Level I Sensitivity)

HANDLER & ASSOCIATES, INC.

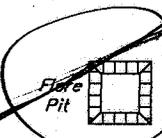
LOCATION LAYOUT FOR

SNOW #3(D)-13-19-7
SECTION 13, T19S, R7E, S.L.B.&M.
473' FNL 1972' FWL



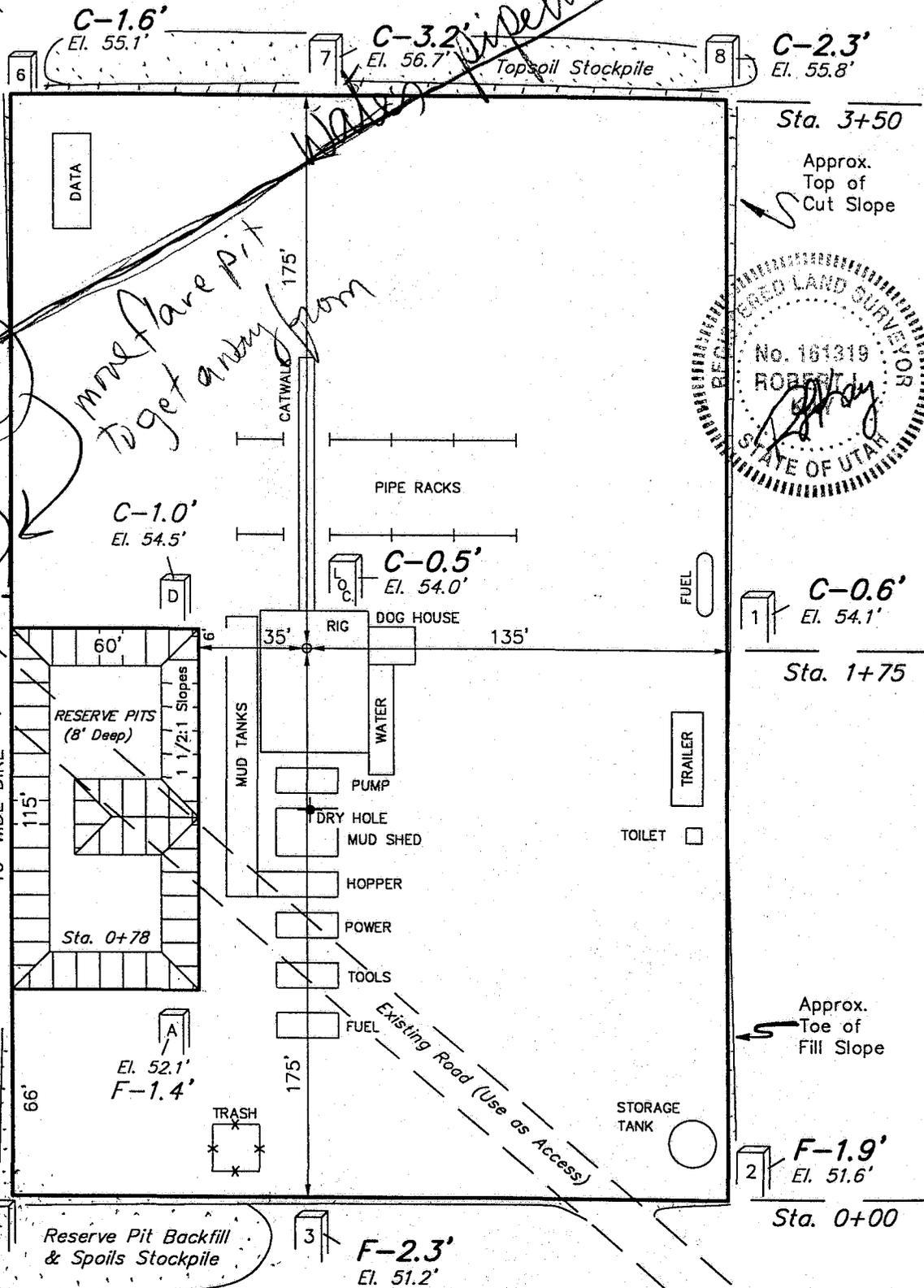
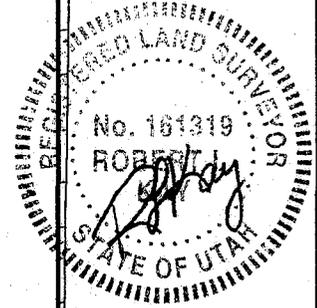
SCALE: 1" = 50'
DATE: 8-6-98
Drawn By: C.B.T.

NOTE:
Flare Pit is to be located a min. of 100' from the Well Head.



more flare pit to get away from water

pipeline (buried)



Elev. Ungraded Ground at Location Stake = **5854.0'**
Elev. Graded Ground at Location Stake = **5853.5'**



Chandler&Associates Snow 3(D)-13-19-7, 473FNL, 1972FWL, S. 13, T19S, R7E, Emery Co. 4301530339, 10/7/98, C. Kierst



PACIFICORP

BRENT G. ARNOLD
Property Agent / Thermal Resources

1407 West North Temple, Suite 110
Salt Lake City, Utah 84140
(801) 220-2238
FAX (801) 220-4373
Cellular (801) 550-8467

Jim Simonton
Operations/Production Supervisor

Cellular: 435-790-5467
Home: 435-722-5709

CHANDLER & ASSOCIATES, LLC

Oil & Gas Exploration & Production

426 Prospect, P.O. Box 418
Rangely, CO 81648

Office: 970-675-8451
FAX: 970-675-5154

FAX

Date 09/08/98

Number of pages including cover sheet 2

TO: Lisha Cordova
Utah Div. Oil, Gas & Mining

FROM: Tom Taylor
Chandler & Associates, LLC
475 17th Street, Suite #1000
Denver, Colorado 80202

Phone 801-538-5296
Fax Phone 801-359-3940

Phone (303) 295-0400
Fax Phone (303) 295-0222

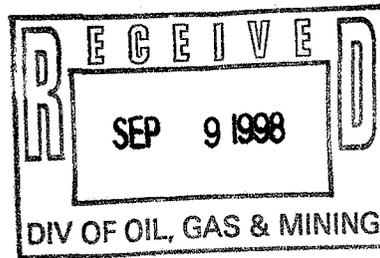
CC:

REMARKS: Urgent For your review Reply ASAP Please Comment

Affidavit of surface use agreement.

If you have any questions please call.

Thanks
Tom Taylor





CHANDLER & ASSOCIATES, LLC

475 17TH ST. • SUITE 1000 • DENVER, COLORADO 80202 • 303 295-0400

OIL & GAS EXPLORATION AND PRODUCTION

FAX 303 295-0222

AFFIDAVIT

**STATE OF UTAH
COUNTY OF EMERY**

My name is COLLIS P. CHANDLER, III. I am of lawful age and reside in Denver County, State of Colorado. I am familiar with lands situated in the County of Emery, State of Utah, as more fully described under the certain Lease Agreement, executed 4-14-98, effective 5-1-98, by and between PacifiCorp, Lessor, an Oregon Corporation, Successor in interest by Merger to Utah Power and Light Company, a Utah Corporation and Chandler & Associates, Inc., now known as Chandler & Associates, LLC, Successor by Merger, covering lands described as follows, to-wit:

NE4NE4NW4 Section 13, T.19S., R.7E., SLM, Emery County, Utah. (10 acres)

I am personally familiar with that certain Lease Agreement, executed 4-14-98, effective 5-1-98, in favor of Chandler & Associates, Inc., nka Chandler & Associates, LLC, Successor by Merger, in which a Memorandum of Lease Agreement is being simultaneously recorded in the Records of Emery County, Utah; that I know of my own knowledge, notwithstanding the discrepancy in names, the said William C. Brauer, as Senior Vice President, is the one and same person who executed the said Lease Agreement, for the purpose, of ingress and egress (among other provisions), onto the above noted lands.

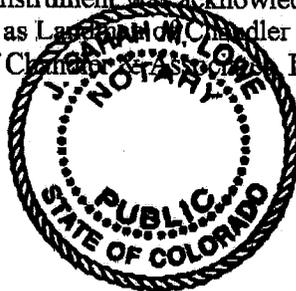
Executed this 8th day of September, 1998.

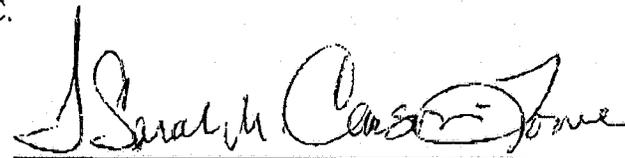
**CHANDLER & ASSOCIATES, LLC
Successor by Merger To
CHANDLER & ASSOCIATES, INC.**

By: 
Collis P. Chandler, III
Landman

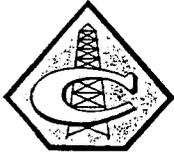
**STATE OF COLORADO
CITY AND COUNTY OF DENVER**

The foregoing instrument was acknowledged before me this 8th day of September, 1998, by Collis P. Chandler, III, as Landman of Chandler & Associates, LLC, a Colorado Limited Liability Company, on behalf of Chandler & Associates, LLC.




NOTARY PUBLIC

My Commission Expires 05/04/99



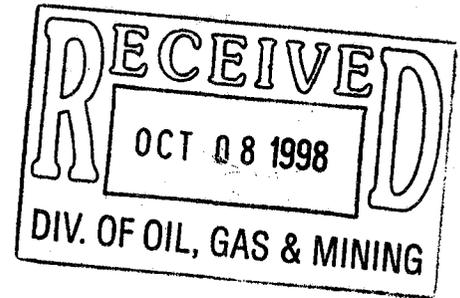
CHANDLER & ASSOCIATES, LLC

475 17TH ST. • SUITE 1000 • DENVER, COLORADO 80202 • 303 295-0400

OIL & GAS EXPLORATION AND PRODUCTION

FAX 303 295-0222

October 5, 1998



Emery County Clerk & Recorder
P. O. Box 698
Castle Dale, Utah 84513

Re: 8706-UEM11-R13-00 PacifiCorp
(8706) FERRON "C" PROSPECT
Emery County, Utah

Dear Madam:

Attached for your further handling and final filing of record, please find the following:

- a) Chandler & Associates, LLC, check number 1503, dated 10-1-98, in the amount of \$11.00, to cover the fees for recording the below listed document; and
- b) Memorandum of Lease Agreement, executed 9-10-98, by and between PacifiCorp, an Oregon Corporation dba Utah Power & Light Company and Chandler & Associates, LLC.

Please place this Memorandum of record and return same in the self-addressed, stamped envelope enclosed for your convenience.

Thanking you in advance, I am

Very truly yours,
CHANDLER & ASSOCIATES, LLC

Rae Adrienne Cusimano
Land Technician

/rac
w/attachment

8706rec7.wpd

MEMORANDUM OF LEASE AGREEMENT

This Memorandum of Lease Agreement dated September 8, 1998, effective 5-1-98, is by and between PacifiCorp, as Lessor, an Oregon Corporation, Successor in interest by Merger to Utah Power & Light Company, a Utah Corporation, with an office located at 1407 West North Temple, Salt Lake City, Utah, 84140, ("PacifiCorp") and Chandler & Associates, Inc., Lessee, a Colorado Corporation, with an office located at 475 17th Street, Suite 1000, Denver, Colorado, 80202, now known as Chandler & Associates, LLC, a Colorado Limited Liability Company, being the surviving corporation, due to merger / name change effective 7-1-98, as evidenced by Certificate filed with the Secretary of State of the State of Colorado ("Chandler").

Lessor, in consideration of the covenants and agreements contained in that certain unrecorded Lease Agreement ("Lease"), dated effective 5-1-98, leased and let unto Chandler, certain lands, more fully and completely described as follows:

NW/4NE/4 and NE/4NW/4 Section 13, T.19S., R.7E., S.L.M., Emery County, Utah. (80.00 acres)

for the purpose of constructing, installing and operating a waste water disposal well and a natural gas compression station, along with pipelines, power lines and other associated ancillary facilities.

The above described lands are subject to all the terms and conditions of the Lease, reference to which may be made for a complete statement of rights and obligations of PacifiCorp and Chandler. Should there be any discrepancy between this Memorandum of Lease Agreement and the Lease Agreement, the Lease Agreement shall control.

The term of the "Lease" shall be for a period of five (5) years beginning on 5-1-98 and may be extended in five (5) year periods thereafter, providing certain requirements and covenants are met.

Copies of the Lease may be found at the above indicated addresses of the parties hereto.

All the terms, conditions and covenants of the Lease shall be binding upon and inure to the benefit of the successors and assigns, respectively of each of the parties hereto.

Executed this 10th day of September, 1998.

PacifiCorp, An Oregon Corporation
dba Utah Power & Light Company

BY: [Signature]
Dan Baker
TITLE: Vice President Fuels

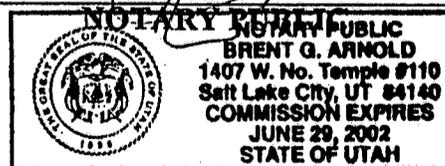
Chandler & Associates, LLC
Successor by Merger to
Chandler & Associates, Inc.

BY: [Signature]
Mitchell L. Solich
President & COO

STATE OF UTAH
COUNTY OF SALT LAKE

The foregoing instrument was acknowledged before me this 16th day of September, 1998, by Dan Baker, the Vice President Fuels of PacifiCorp, an Oregon Corporation, on behalf of PacifiCorp.

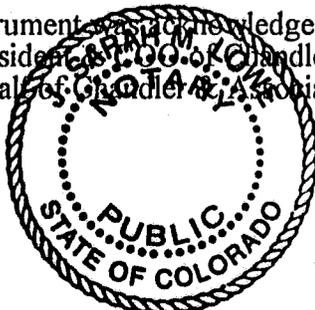
My Commission Expires:
June 29, 2002



STATE OF COLORADO
CITY AND COUNTY OF DENVER

The foregoing instrument was acknowledged before me this 10th day of September, 1998, by Mitchell L. Solich, the President & COO of Chandler & Associates, LLC, a Colorado Limited Liability Company, on behalf of Chandler & Associates, LLC.

My Commission Expires:
05-04-99



[Signature]
NOTARY PUBLIC

My Commission Expires 05/04/99

811.00

EMERY COUNTY RECORDER

P.O. Box 698
CASTLE DALE, UTAH 84513
(801) 381-2414

Customer's Order No. _____ Phone No. _____ Date _____

Name _____

Address _____

SOLD BY	CASH	C.O.D.	CHARGE ON ACCT	DISC. RETD.	PAID OUT		
QUAN.	DESCRIPTION			PRICE	AMOUNT		
	EMERY COUNTY RECORDER						
	DATE: 10/08/1998						
	FOR CHANDLER & ASSOCIATES, INC						
	TOTAL: 11.00 CHECK						
	ENTRY: 349903						
	BOOK: 0246 PAGE: 0063						
	FILED BY: SLB						
				TAX			
				TOTAL			

ALL claims and returned goods MUST be accompanied by this bill.

0001544

Rec'd by _____

GS-228-2



PRINTED IN U.S.A.



OCT 15 1998
C&A, INC.-LAND DEPT.

SEP 24 1998
C&A, INC.-LAND DEPT.

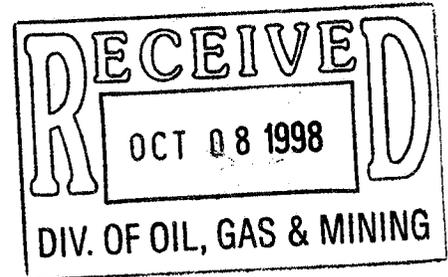
Indexed { Grantee _____
 { Grantor _____
Abstracted { Book _____
 { Page _____



CHANDLER & ASSOCIATES, LLC

475 17TH ST. • SUITE 1000 • DENVER, COLORADO 80202 • 303 295-0400
OIL & GAS EXPLORATION AND PRODUCTION FAX 303 295-0222

October 7, 1998



PacifiCorp
1407 West North Temple, Suite 110
Salt Lake City, Utah 84140

Attention: Mr. Brent G. Arnold
Land Use Agent

Re: 8706-UEM11-R13-00 PacifiCorp
(8706) FERRON "C" PROSPECT
Emery County, Utah

Dear Mr. Arnold:

Attached for addition to your files, please find copies of the following:

- 1) Fully executed Memorandum of Lease Agreement executed 9-10-98, by both PacifiCorp and Chandler & Associates, LLC; and
- 2) Transmittal letter to the Emery County Clerk & Recorder dated 10-5-98, requesting the above instrument be placed of record.

We will furnish a copy of the recorded Memorandum, when same is available.

If I may be of any further assistance, please do not hesitate to contact me.

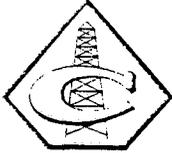
Very truly yours,
CHANDLER & ASSOCIATES, LLC

Rae Adrienne Cusimano
Rae Adrienne Cusimano
Land Technician

/rac
w/attachment

cc: Collis P. Chandler, III

→ Mr. Christopher Kierst (w/attachment)
Utah Division of Oil & Gas Mining
1594 West North Temple, Suite 1210
Salt Lake City, Utah 84114



CHANDLER & ASSOCIATES, LLC

475 17TH ST • SUITE 1000 • DENVER COLORADO 80202 • 303 295-0400

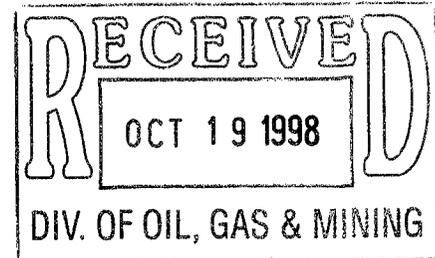
LAND ACQUISITION AND DEVELOPMENT

FAX 303 295 1227

October 15, 1998

PacifiCorp
1407 West North Temple, Suite 110
Salt Lake City, UT 84140

Attention: Mr. Brent G. Arnold
Land Use Agent



Re: 8706-UEM11-R13-00 PacifiCorp
(8706) FERRON "C" PROSPECT
Emery County, Utah

Dear Mr. Arnold:

Attached for completion of your files, please find a copy of that certain Memorandum of Lease Agreement, dated September 10, 1998, executed by PacifiCorp and Chandler & Associates, LLC, which was recorded in the Emery County Records on 10-8-98, in Book 246, Page 63, under Entry Number 349903.

If I may be of further assistance, please call me.

Very truly yours,
CHANDLER & ASSOCIATES, LLC

Rae Adrienne Cusimano *rac*
Land Technician

/rac
w/attachment

cc: Collis P. Chandler, III

8706ltr7.wpd

✓ bcc:

Mr. Christopher Kierst
Utah Division of Oil & Gas
Mining
1594 West North Temple, Ste 1210
Salt Lake City, Utah 84114

349903 B 0246 P 63
DATE 8-OCT-1998 11:40AM
FEE \$11.00 CHECK
DIANE SWASEY, RECORDER
FILED BY SLB
FOR CHANDLER & ASSOCIATES, INC
EMERY COUNTY CORPORATION

MEMORANDUM OF LEASE AGREEMENT

This Memorandum of Lease Agreement dated September 8, 1998, effective 5-1-98, is by and between PacifiCorp, as Lessor, an Oregon Corporation, Successor in interest by Merger to Utah Power & Light Company, a Utah Corporation, with an office located at 1407 West North Temple, Salt Lake City, Utah, 84140, ("PacifiCorp") and Chandler & Associates, Inc., Lessee, a Colorado Corporation, with an office located at 475 17th Street, Suite 1000, Denver, Colorado, 80202, now known as Chandler & Associates, LLC, a Colorado Limited Liability Company, being the surviving corporation, due to merger / name change effective 7-1-98, as evidenced by Certificate filed with the Secretary of State of the State of Colorado ("Chandler").

Lessor, in consideration of the covenants and agreements contained in that certain unrecorded Lease Agreement ("Lease"), dated effective 5-1-98, leased and let unto Chandler, certain lands, more fully and completely described as follows:

NW/4NE/4 and NE/4NW/4 Section 13, T.19S., R.7E., S.L.M., Emery County, Utah.
(80.00 acres)

for the purpose of constructing, installing and operating a waste water disposal well and a natural gas compression station, along with pipelines, power lines and other associated ancillary facilities.

The above described lands are subject to all the terms and conditions of the Lease, reference to which may be made for a complete statement of rights and obligations of PacifiCorp and Chandler. Should there be any discrepancy between this Memorandum of Lease Agreement and the Lease Agreement, the Lease Agreement shall control.

The term of the "Lease" shall be for a period of five (5) years beginning on 5-1-98 and may be extended in five (5) year periods thereafter, providing certain requirements and covenants are met.

Copies of the Lease may be found at the above indicated addresses of the parties hereto.

All the terms, conditions and covenants of the Lease shall be binding upon and inure to the benefit of the successors and assigns, respectively of each of the parties hereto.

Executed this 10th day of September, 1998.

PacifiCorp, An Oregon Corporation
dba Utah Power & Light Company

Chandler & Associates, LLC
Successor by Merger to
Chandler & Associates, Inc.

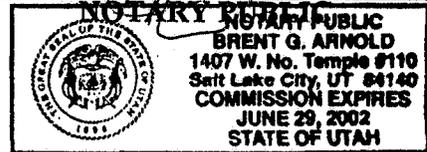
BY: [Signature]
Dan Baker
TITLE: Vice President Fuels

BY: [Signature]
Mitchell L. Solich
President & COO

STATE OF UTAH
COUNTY OF SALT LAKE

The foregoing instrument was acknowledged before me this 16th day of September, 1998, by Dan Baker, the Vice President Fuels of PacifiCorp, an Oregon Corporation, on behalf of PacifiCorp.

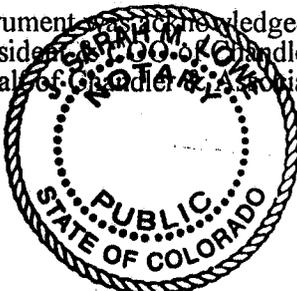
My Commission Expires:
June 29, 2002



STATE OF COLORADO
CITY AND COUNTY OF DENVER

The foregoing instrument was acknowledged before me this 10th day of September, 1998, by Mitchell L. Solich, the President of Chandler & Associates, LLC, a Colorado Limited Liability Company, on behalf of Chandler & Associates, LLC.

My Commission Expires:
05-04-99



[Signature]
NOTARY PUBLIC

My Commission Expires 05/04/99

8 11.00



State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt
Governor
Ted Stewart
Executive Director
Lowell P. Braxton
Division Director

1594 West North Temple, Suite 1210
PO Box 145801
Salt Lake City, Utah 84114-5801
801-538-5340
801-359-3940 (Fax)
801-538-7223 (TDD)

November 3, 1998

Chandler & Associates, Inc.
475 Seventeenth Street, Suite 1000
Denver, Colorado 80202

Re: Snow 3(D)-13-19-7 Well, 473' FNL, 1972' FWL, NE NW, Sec. 13,
T. 19 S., R. 7 E., Emery County, Utah

Gentlemen:

Pursuant to the provisions and requirements of Utah Code Ann. 40-6-1 et seq., Utah Administrative Code R649-3-1 et seq., and the attached Conditions of Approval, approval to drill the referenced well is granted.

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date. The API identification number assigned to this well is 43-015-30339.

Sincerely,

A handwritten signature in black ink that reads "John R. Baza". The signature is written in a cursive style with a large, sweeping initial "J".

John R. Baza
Associate Director

lwp

Enclosures

cc: Emery County Assessor
Bureau of Land Management, Moab District Office

Operator: Chandler & Associates, Inc.
Well Name & Number: Snow 3(D)-13-19-7
API Number: 43-015-30339
Lease: Fee Surface Owner: Fee
Location: NE NW Sec. 13 T. 19 S. R. 7 E.

Conditions of Approval

1. General

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for Permit to Drill.

2. Notification Requirements

Notify the Division of the following actions during drilling of this well:

- . 24 hours prior to cementing or testing casing
- . 24 hours prior to testing blowout prevention equipment
- . 24 hours prior to spudding the well
- . within 24 hours of any emergency changes made to the approved drilling program
- . prior to commencing operations to plug and abandon the well

Division contacts (please leave a voice mail message if person is not available to take the call):

- . Dan Jarvis at (801) 538-5338
- . Robert Krueger at (801) 538-5274 (plugging)
- . Carol Daniels at (801) 538-5284 (spud)

3. Reporting Requirements

All required reports, forms and submittals shall be promptly filed with the Division, including but not limited to the Entity Action Form (Form 6), Report of Water Encountered During Drilling (Form 7), Weekly Progress Reports for drilling and completion operations, and Sundry Notices and Reports on Wells requesting approval of change of plans or other operational actions.

4. Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis (copy attached).



State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt
Governor

Kathleen Clarke
Executive Director

Lowell P. Braxton
Division Director

1594 West North Temple, Suite 1210

PO Box 145801

Salt Lake City, Utah 84114-5801

801-538-5340

801-359-3940 (Fax)

801-538-7223 (TDD)

June 5, 2000

Chandler & Associates, Inc.
475 Seventeenth Street, Suite 1000
Denver, Colorado 80202

Re: APD Rescinded -- Snow 3(D)-13-19-7 Well, Sec. 13, T. 19S, R. 7E, Emery County, Utah,
API No. 43-015-30339

Gentlemen:

The Application for Permit to Drill for the subject well was approved by the Division of Oil, Gas and Mining on November 3, 1998. No drilling activity at this location has been reported to the division. Due to the excessive time delay in commencing drilling operations, approval to drill the well is hereby rescinded, effective immediately.

Please note that a new Application for Permit to Drill must be filed with this office for approval prior to the commencement of any future work on the subject location.

If any previously unreported operations have been performed on this well location, it is imperative that you notify the Division of Oil, Gas and Mining immediately.

Sincerely,

A handwritten signature in cursive script that reads "Don Staley".

Don Staley
Information Services Manager
Oil and Gas

cc: BLM - Moab District
L.E. Cordova
Well File