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DEC 29 1989

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

30-045-27564

OIL CON. DIV

DIST. APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK DRILL	5. LEASE NUMBER SF-081098
1b. TYPE OF WELL GAS	6. IF INDIAN, ALL. OR TRIBE NAME
2. OPERATOR MERIDIAN OIL INC. 14538	7. UNIT AGREEMENT NAME
3. ADDRESS & PHONE NO. OF OPERATOR P O BOX 4289 FARMINGTON, NM 87499	8. FARM OR LEASE NAME 7424 RIDDLE
4. LOCATION OF WELL 350'N 775'W At proposed prod. zone 980'N, 937'W, at TD 4494'N, 1838'W	9. WELL NO. 1R
14. DISTANCE IN MILES FROM NEAREST TOWN 10 miles from Aztec	10. FIELD, POOL, OR WILDCAT 72319 BLANCO MESA VERDE
15. DISTANCE FROM PROPOSED LOCATION TO NEAREST PROPERTY OR LEASE LINE. 350'	11. SEC. T. R. M OR BLK. D SEC. 4 T30N R09W NMPM
16. ACRES IN LEASE	12. COUNTY SAN JUAN
17. ACRES ASSIGNED TO WELL W/ 322.70	13. STATE NM
18. DISTANCE FROM PROPOSED LOCATION TO NEAREST WELL DR. COMPL., OR APPLIED FOR ON THIS LEASE. 463'	19. PROPOSED DEPTH 5734' TVD 8620' MD
20. ROTARY OR CABLE TOOLS ROTARY	
21. ELEVATIONS (DF, FT, GR, ETC.) 6234' GL	22. APPROX. DATE WORK WILL START
23. PROPOSED CASING AND CEMENTING PROGRAM	
*SEE OPERATIONS PLAN	
This well is planned as a high angle Mesa Verde well as per the attached operations plan.	
24. AUTHORIZED BY: <u>Scott B. Daves</u> REGULATORY AFFAIRS	DATE <u>09/20/89</u>

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____ DATE _____

APPROVED
AS AMENDED

NOTE: THIS FORMAT IS ISSUED IN LIEU OF US BLM FORM 3160-3

A-9037

DEC 29 1989
AREA MANAGER

Submit to Appropriate
District Office
State Lease - 4 copies
Fee Lease - 3 copies

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised 1-1-89

OIL CONSERVATION DIVISION

P.O. Box 2088

Santa Fe, New Mexico 87504-2088

DISTRICT I

P.O. Box 1980, Hobbs, NM 88240

DISTRICT II

P.O. Drawer DD, Artesia, NM 88210

DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

Operator

Meridian Oil Inc.

Lease

Riddle (SF-081098)

Well No.

1R

Unit Letter

D

Section

4

Township

30 North

Range

9 West

County

San Juan

Actual Footage Location of Well:

350

feet from the

North

line and

775

feet from the

West

line

Ground level Elev.

6234'

Producing Formation

Mesa Verde

Pool

Blanco

Dedicated Acreage:

322.70

Acres

1. Outline the acreage dedicated to the subject well by colored pencil or ink on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interest of all owners been consolidated by communitization, unitization, force-pooling, etc.?
☐ Yes ☐ No If answer is "yes" type of consolidation _____
If answer is "no" list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____
No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, force-pooling, or otherwise) or until a non-standard unit, eliminating such interest, has been approved by the Division.

OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Signature For

Peggy Bradfield

Printed Name

Regulatory Affairs

Position

Meridian Oil Inc.

Company

Date

Sept 21, 1989

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes actual surveys made by me or under supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed

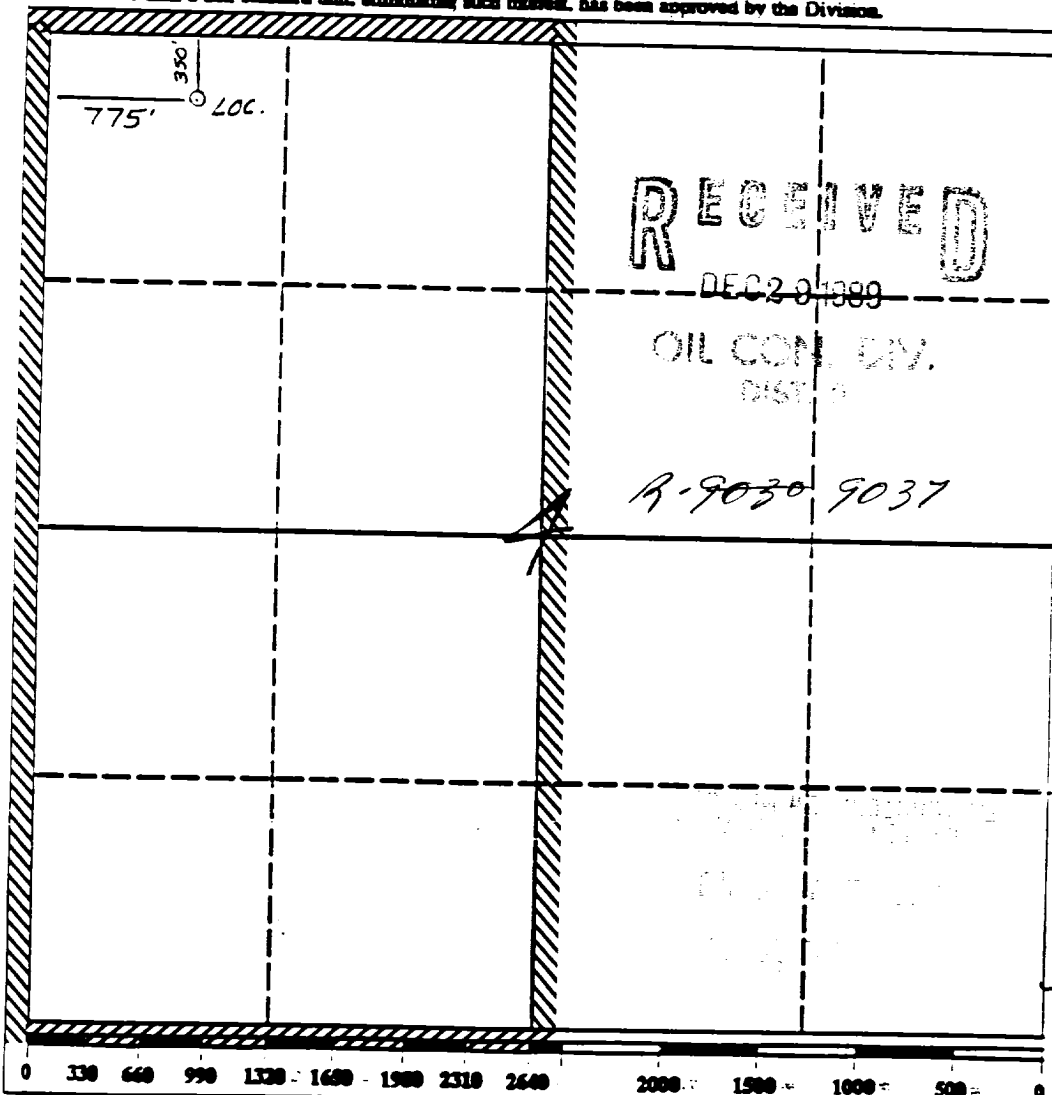
Neale C. Edwards

Signature of Sealed Professional Surveyor

REGISTERED PROFESSIONAL SURVEYOR
NEW MEXICO
857

Certificate No.

6857



Operations Plan

Riddle #1R

I. Location: 350' FNL, 775' FWL, Sec. 4, T-30-N, R-9-W
San Juan County, New Mexico

Field: Blanco Mesa Verde

Elevation: 6234' Graded Ground Level

NOTE: All depths are true vertical depth unless otherwise noted.

II. Geology:

A. Formation Tops: (TVD)

San Jose	Surface	Chacra	3794
Ojo Alamo	1712	Int. Casing Point	4459
Kirtland	1846	Mesa Verde	4559
Fruitland	2649	Menefee	4876
Pictured Cliffs	3019	Point Lookout	5234
Lewis	3216	Total Depth	5734

B. Logging Program: Mud logs from 2600' to Intermediate Total Depth.

III. Drilling:

A. Mud Program: Mud from surface to Intermediate Total Depth. The well will be drilled vertically to a kick off point depth of 3730', there the well will deviate to 73° at 8°/100' 14.39° east of south (165.61° from north). At a depth of 4415' TVD (4643' MD), the angle of 73° will be maintained for 150' to a depth of 4459' TVD (4793' MD). At this point, intermediate casing will be set (9 5/8", 40#, N-80).

B. Intermediate Hole Table:

<u>True Vert.</u> <u>Depth (FT)</u>	<u>Measured</u> <u>Depth (FT)</u>	<u>Direction</u> <u>True North</u>	<u>Horizontal</u> <u>Displacement</u>	<u>Hole</u> <u>Size</u>	<u>Notes</u>
0					
500'	500'	0	0	17 1/2"	Set 13 3/8", 48#, H-40; drill out with 12 1/4" bit.
3730'	3730'	0	0	12 1/4"	Kick off point, TOOH w/12 1/4" bit, pick up 8 3/4", 8°/100' build assembly.
3730'	3730'	0	0	8 3/4"	Kick off point.
4415'	4643'	165.61°	507	8 3/4"	Deviate to 73° @ 8°/100'.

B. Intermediate Hole Table (Continued):

<u>True Vert. Depth (FT)</u>	<u>Measured Depth (FT)</u>	<u>Direction True North</u>	<u>Horizontal Displacement</u>	<u>Hole Size</u>	<u>Notes</u>
4459'	4793'	165.61°	650	8 3/4"	Drill 150' @ 73°, TOOH.
4459'	4793'			12 1/4"	Open hole to 12 1/4".
4459'	4793'	165.61°	650	12 1/4"	Run & cement 9 5/8", 40#, N-80.

C. Production Hole: Gas-Drilled Deviated - Drill out cement and shoe of 9 5/8" casing, unload hole with nitrogen, switch to gas, ensure hole is dusting, commence gas-drilling operations. Drill at 73° to Total Depth of 5734' TVD (8620' MD) with gas. At this point 5 1/2", 17#, N-80 casing will be run from Total Depth to surface.

D. Production Hole Table:

<u>True Vert. Depth (FT)</u>	<u>Measured Depth (FT)</u>	<u>Direction True North</u>	<u>Horizontal Displacement</u>	<u>Hole Size</u>	<u>Notes</u>
4459'	4793'	165.61°	650'	8 3/4"	Drill out cement & shoe of 9 5/8" casing. Dry hole w/N ₂ , commence gas drilling ops. @ 73°.
5734'	8620'	165.61°	4278'	8 3/4"	Run & cement 5 1/2", 17#, N-80.

IV. Materials

A. Casing Program:

<u>Hole Size (inches)</u>	<u>Measured Depth (Ft)</u>	<u>Casing Size (inches)</u>	<u>Weight (lbs/Ft)</u>	<u>Grade</u>
17 1/2	500	13 3/8	48	H-40
12 1/4	4793	9 5/8	40	N-80
8 3/4	8620	5 1/2	17	N-80

B. Float Equipment:

1. 13 3/8" Surface Casing - Sawtooth guide shoe.
2. 9 5/8" Intermediate Casing - Cement nose float shoe on bottom, float collar one joint off bottom, cementing stage tool set @ 2600', thirty-nine (39) centralizers spaced as follows: thirty (30) every joint off bottom, one (1) joint below stage tool, four (4) every other joint above stage tool, four (4) every other joint across the Ojo Alamo.
3. 5 1/2" Production Casing - Angular port guide shoe, float collar one joint off bottom; ninety-six (96) centralizers, one every joint from the bottom.

C. Tubing 8620' of 2 7/8", 6.5#, J-55, 8rd EUE tubing with a seating nipple one joint off bottom and an expendable check valve on bottom.

D. Wellhead Equipment: 9 5/8" x 11" 2000 psi christmas tree assembly.

V. Cementing

A. 13 3/8" Surface Casing: Use 600 sxs Class "B" cement with 1/4# flocele and 3% CaCl_2 (700 cu. ft. of slurry, 100% excess to circulate to surface). WOC 12 hours. Test casing to 700 psi.

B. 9 5/8" Intermediate Casing:

1. First Stage - Lead with 675 sxs of 65/35 Class "B" poz with 6% gel, 2% CaCl_2 , and 1/2 cu. ft. perlite per sack. Tail in with 100 sxs Class "B" with 2% CaCl_2 (1202 cu. ft. of slurry, 75% excess to cover stage tool @ 2600').
2. Second Stage - Lead with 515 sxs of 65/35 Class "B" poz with 6% gel, 2% CaCl_2 , and 1/2 cu. ft. perlite per sack. Tail in with 50 sxs Class "B" with 2% CaCl_2 (888 cu. ft. of slurry, 100% excess to cover the Ojo Alamo). WOC 12 hours. Test casing to 1500 psi.

C. 5 1/2" Production Casing: Lead with 100 sxs of 50/50 Class "B" poz with 2% gel, and 0.6% FLA. Tail in with 1,020 sxs of 50/50 Class "B" poz with 6.25# gilsonite, 1/4# flocele, and 0.6% FLA. (1650 cu. ft. of slurry, 70% excess to intermediate casing. WOC 18 hours.

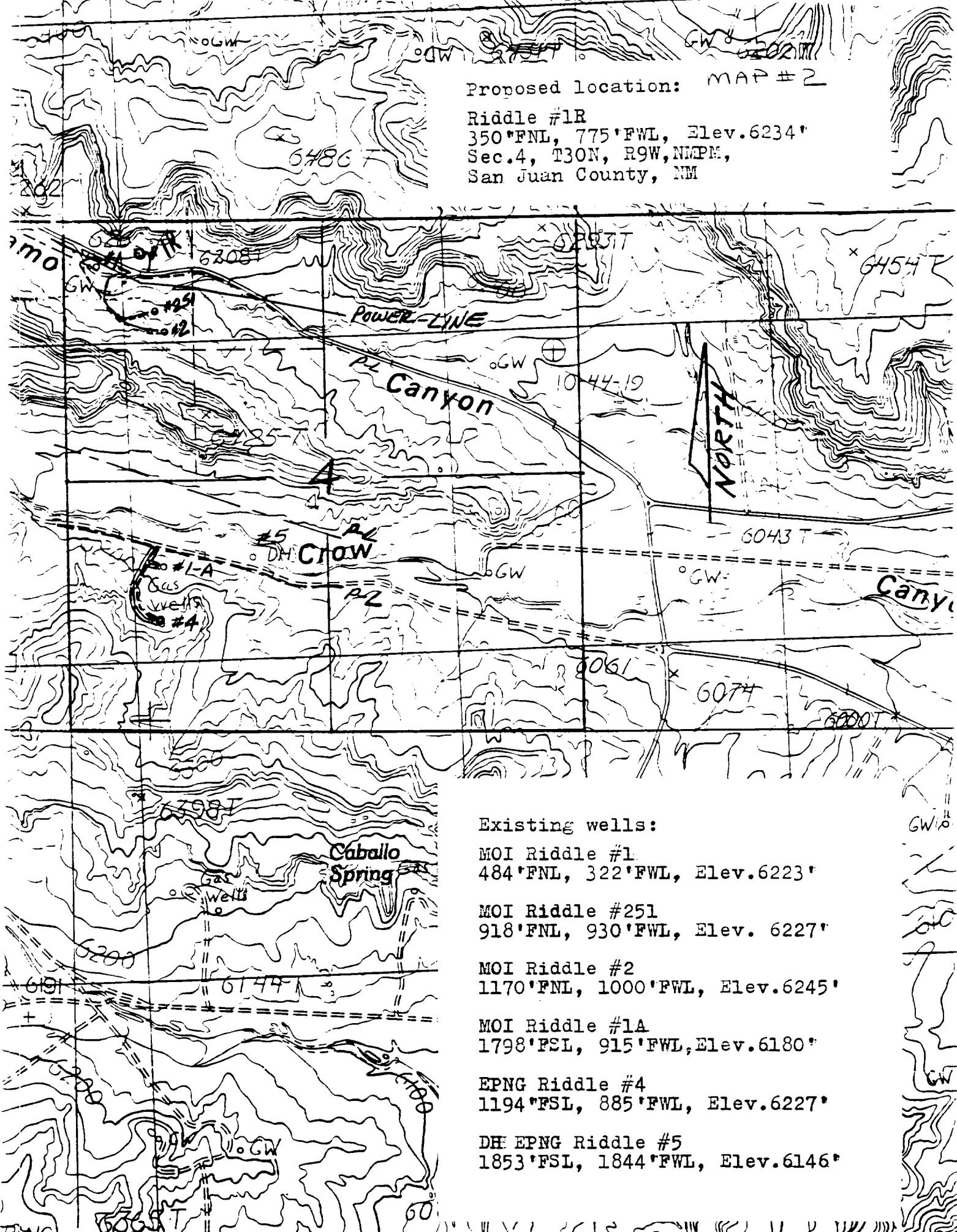
VI. BOP and Tests:

A. Surface to intermediate TD - 12", 2000 psi (minimum) double gate BOP stack (Reference Figure #1). Prior to drilling out surface casing, test rams to 700 psi for 30 minutes.

B. Intermediate TD to TD - 11", 2000 psi (minimum) double gate BOP stack (Reference Figure #2). Prior to drilling out intermediate casing, test rams to 1500 psi (minimum) for 30 minutes.

Proposed location: MAP #2

Riddle #1R
350'FNL, 775'FWL, Elev.6234'
Sec.4, T30N, R9W,NMPM,
San Juan County, NM



Existing wells:

MOI Riddle #1
484'FNL, 322'FWL, Elev.6223'

MOI Riddle #251
918'FNL, 930'FWL, Elev. 6227'

MOI Riddle #2
1170'FNL, 1000'FWL, Elev.6245'

MOI Riddle #1A
1798'FSL, 915'FWL, Elev.6180'

EPNG Riddle #4
1194'FSL, 885'FWL, Elev.6227'

DH EPNG Riddle #5
1853'FSL, 1844'FWL, Elev.6146'