

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENTFORM APPROVED  
OMB No. 1004-0136  
Expires July 31, 2010

## APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. COC57961
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator EXXON MOBIL CORPORATION		7. If Unit or CA Agreement, Name and No. COC069547X
Contact: MARK CORNETT E-Mail: mark.cornett@exxonmobil.com		8. Lease Name and Well No. FREEDOM UNIT 197-31C5
3a. Address P.O. BOX 4358 HOUSTON, TX 77210-4358	3b. Phone No. (include area code) Ph: (281) 654-192	9. API Well No.
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface NENW Lot 7 440FNL 1996FWL At proposed prod. zone SENW Lot 10 1478FNL 1740FWL		10. Field and Pool, or Exploratory PICEANCE BASIN
14. Distance in miles and direction from nearest town or post office* 19.1 MI. SW FROM MEEKER		11. Sec., T., R., M., or Blk. and Survey or Area Sec 31 T1S R97W Mer 6PM
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 1158	16. No. of Acres in Lease 1162.60	12. County or Parish RIO BLANCO
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. 928	19. Proposed Depth 13500 MD	13. State CO
21. Elevations (Show whether DF, KB, RT, GL, etc.) 6538 GL	22. Approximate date work will start 01/01/2011	17. Spacing Unit dedicated to this well 20.00
		20. BLM/BIA Bond No. on file ESB-000036
		23. Estimated duration 30 DAYS

## 24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

- |   |  |
|---|--|
| 1. Well plat certified by a registered surveyor.  | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).    |
| 2. A Drilling Plan.   | 5. Operator certification  |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

25. Signature (Electronic Submission)	Name (Printed/Typed) MARK CORNETT Ph: (281) 654-192	Date 10/23/2009
Title REGULATORY SPECIALIST		
Approved by (Signature)	Name (Printed/Typed)	Date
Title	Office	

Application approval does not warrant or certify the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.  
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Additional Operator Remarks (see next page)

Electronic Submission #76214 verified by the BLM Well Information System  
For EXXON MOBIL CORPORATION, sent to the Meeker

\*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\*

## Exxon Mobil Corporation

Freedom Unit 197-31C1, C2, C3, C4, C5, C6, C7, C8, C9, and C10 (Directional Wells)  
Section 31, T1S, R97W  
Rio Blanco Co., Colorado  
BLM Drilling Plan

### 1. The Estimated Tops of Important Geologic Markers

Formation	TVD (ft)
A Groove	1450
B Groove	1650
Wasatch A	3150
Wasatch C	4150
Wasatch G	5950
Ohio Creek	7700
Williams Fork	8400
Cameo	11400
Rollins	11650
Cozzette	11850
Corcorran	12700
TD	12900

Tops are RKB with an estimated KB elevation of 6,562'

### 2. The estimated depths at which the top and the bottom of anticipated water, oil, gas or other mineral bearing formations are expected to be encountered

	Top (ft TVD)	Bottom (ft TVD)	How Protected
Fresh Water	Surface	3150	Surface casing cemented to surface
Gas	5950	TD	3 casing strings provide isolation

### 3. Minimum specifications for pressure control equipment

#### A. Wellhead and Tree Equipment:

- "A" Section - 10-3/4" SOW x 11" 5000 psi, sweet MultiBowl
- "B" Section - 11" 5000 psi x 11" 5000 psi, sweet Multibowl
- Adapter - 11" 5000 psi x 4-1/16" 10000 psi, sweet
- Tubinghead - 4-1/16" 10000 psi x 4-1/16" 10000 psi, sweet
- Tubinghead adapter - 4-1/16" 10000 psi x 2-1/16" 5000 psi, sweet
- Tree - 2-1/16" 5000 psi, sweet

B. Blowout preventer equipment:

Type	Pressure Rating	Installed on Casing
Type - RSRRAG	5,000 psi	10-3/4"
Type - RSRRAG	5,000 psi	7"

Additional preventers may be added and/or preventers with higher pressure ratings may be substituted depending on equipment provided by drilling contractor.

C. Testing:

- (1) Operational Testing - an operational test consisting of closing the pipe rams on the drill pipe and closing the blind rams on open hole will be performed on each round trip but not more than once each day.
- (2) Pressure Testing - An initial pressure test of 200 psi and 5,000 psi will be performed on the ram BOPs after nipping up on the surface casing string but prior to drilling out. The annular BOP will be tested to 200 psi and 5,000 psi upon installation. This initial test only may be performed on the "stump" and the BOP-wellhead flange will be tested when the stack is installed.

Subsequent pressure tests of the BOP equipment will be conducted as follows:

- (a) Upon any component change of the BOP stack and/or choke manifold.
- (b) At least every thirty (30) days.

Subsequent pressure tests will be at 200 psi and 5,000 psi for the ram BOPs, and the annular preventer will be tested to 200 psi and 3,500 psi. If a test plug is used, the rams will be tested to working pressure.

- (3) BOP drills - A drilling crew proficiency test to perform the well shut-in procedure will be performed at least once each week with each crew.

D. BOP control unit:

Unit will be hydraulically operated and have one control station on the rig floor readily accessible to the driller and one located at ground level a safe distance from the wellbore.

E. Remote controlled choke:

Unit will be installed prior to drilling intermediate hole.

#### 4. Auxiliary equipment and proposed casing program

##### A. Auxiliary equipment:

- Kelly cocks - upper and lower installed on kelly.
- Safety valve - full opening ball type valve to fit each type and size of drill pipe in use will be available on the rig floor in the open position at all times for use when the kelly is not connected to the drill string.

##### B. Casing:

String	Hole Size	Size / Weight / Grade	Approximate Depth Interval (TVD)	Approximate Depth Interval (MD)
Conductor	26"	16" Line Pipe (0.25 wall)	0-120'	0-120'
Surface	14-3/4"	10 3/4" 45.5# J55	0-4,200'	0-4,300'
Intermediate	9-7/8"	7" 26# P110 or 7" 23# L80 or 7" 26# K55	0-8,700'	0-9,000'
Production	6-1/8"	4 1/2" 15.1# P110	0-12,900'	0-13,100'

Substitutions of weight or grade may be required due to availability or variations in design loads. All pipe is in new condition. All casing threads and couplings will be API. In the case of needing increased tensile or torque ratings, premium connections, such as Hydril or Vam connections, may be used.

A stage tool may be placed in the surface and intermediate hole casing strings. The setting depth of the surface hole stage tool will range from 1,200 to 2,200 ft TVD. When applicable, the intermediate hole stage tool will be installed at a depth between the Wasatch G and Ohio Creek formations. Final stage tool setting depth will be based on actual formation tops and lost returns zones encountered while drilling.

The following table details the minimum design criteria for each casing string, based on working stress design.

Load	Safety Factors
Burst	1.10 if no wear 1.21 with 10% wear*
Collapse	1.125
Tension	1.33 body 1.50 connection
Compression	1.33 body 1.33 connection

- \* 10% wear is the standard assumption for casing that will be drilled through when the subject load is applied.

C. Cement:

- A stage tool may be used in the surface hole cement job to ensure cement is circulated to surface.
- A stage tool may be used in the intermediate hole cement job to ensure adequate top of cement.

Hole Size (inches)	Casing Size (inches)	Top of Cement (ft MD)	Depth of Cement (ft MD)	Cement Type	Approximate Cement Volume (ft <sup>3</sup> )
26	16	Surface	120	Class G	280
14.75	10.75	Surface	1175	Stage 2 Lead: Class G / Light	660
		1175	1675	Stage 2 Tail: Class G	280
		1675	3800	Stage 1 Lead: Class G / Light	1190
		3800	4300	Stage 1 Tail: Class G	280
9.875	7	3800	8500	Lead: Class G / Light	1250
		8500	9000	Tail: Class G	140
6.125	4.5	6700	13100	Lead: Class G / Light	630

- Cement volumes are based on gauge hole and will be revised as necessary (caliper data or mud log) to ensure coverage of all fresh water and hydrocarbon bearing formations. The surface and intermediate string cement jobs may be a 2 stage job. Intermediate and Production casing cement jobs may use foamed or low density cement.

Approximate cement formulation and properties:

Slurry	Typical Additives	Density (ppg)	Yield (ft <sup>3</sup> /sk)	Minimum Sacks
10-3/4" Lead Stage 1 (0% excess)	Lightweight, Fluid loss, Free water control	12.5	2.08	580
10-3/4" Lead Stage 2 (0% excess)	Lightweight, Fluid loss, Free water control	12.5	2.08	320
10-3/4" Tail Stage 1 (0% excess)	Fluid loss, Free water control, Retarder	15.6	1.21	240
10-3/4" Tail Stage 2 (0% excess)	Fluid loss, Free water control, Retarder	15.6	1.21	240
7" Lead (0% excess)	Lightweight, Fluid loss, Free water control	12.5	2.08	610
7" Tail (0% excess)	Fluid loss, Free water control, Retarder	15.6	1.21	120
4-1/2" Lead / Tail (0% excess)	Lightweight, fluid loss, free water control.	12	2.56	250

- Operator requests the option to substitute a single-stage foam cement job for the proposed job on the 7" intermediate and / or the 4-1/2" production string. The cement will have a lead  $\pm 13$  ppg base slurry with nitrogen added to reduce the density of the slurry to  $\pm 10$  ppg and a  $\pm 15.5$  ppg tail slurry. The minimum volume of cement pumped will meet or exceed the volume proposed previously in the intermediate job and production job.
- Operator requests the option to substitute lightweight cement on the 7" intermediate casing and / or 4-1/2" production casing cement jobs. The cement slurry will have a density of  $\pm 10.5$  ppg. Any low density cements utilized will meet or exceed the strength requirements for providing casing

structural support and hydraulic isolation. The minimum volume of cement pumped will meet or exceed the volume proposed previously in the 2 stage intermediate job and 1 stage production job.

Casing test pressures will meet or exceed the following:

String	Size	Test Pressure
Surface	10-3/4"	1,500 psi
Intermediate	7"	1,800 psi
Production	4-1/2"	2,800 psi

#### 5. Circulating medium characteristics.

##### A. Type and anticipated characteristics of circulating medium:

Depth Interval (ft)	Mud Type	Weight (ppg)	FV (Sec/Qt)	YP (#/100 SF)	WL (cc/30 min)	pH
See 4B*	Spud	8.3-9.5	28-50	4-20	--	7.5-10.5
See 4B*	WBM	8.3-9.5	28-50	4-15	<15	8.0-11.0
See 4B*	WBM	8.6-10.5	28-50	4-15	<15	8.0-11.0

\*Hole section depths correspond with casing setting depths as shown in 4B

- Operator requests the option to substitute OBM and / or salt mud during the drilling of the intermediate and / or production hole sections.

##### B. Quantities of mud and weighting materials:

A sufficient inventory of mud materials and treating equipment will be maintained to control mud properties adequately for well control and drilling requirements.

##### C. Mud system monitoring equipment:

- Trip tank - will be used to keep the hole full of fluid on trips and to monitor hole behavior during trips and wireline logging.
- Degasser - will be installed prior to drilling out the surface casing shoe.
- Flare Line System - will be installed prior to drilling out the surface casing shoe.

#### 6. Anticipated type and amount of coring, testing and logging

##### A. Coring program: none anticipated

##### B. Drill stem tests: none anticipated

##### C. Logging program:

- If cement is not circulated to surface on the surface hole cement job, a log acceptable to the White River Field Office will be run to verify top of cement.
- A log acceptable to the White River Field Office will be run in the intermediate and production hole casing to verify top of cement.

Well	Logs	From (ft)	To (ft)
C1-C10	Cased-hole CBL/CCL/GR	4300	9000
C7	CML shuttle deployed triple combo	4300	TD

- Logging may be performed using LWD, tubing conveyance, or wireline.

#### 7. Bottom Hole Pressure / Temperature and Other Potential Hazards.

- The bottom hole pressure is estimated to be 6,388 psi at 12,900' (TVD). This corresponds to an equivalent mud weight of 9.52 ppg.
- Abnormal pressure is not expected in any of these wells.
- Maximum anticipated surface pressure while drilling the 9-7/8" intermediate hole is 1,769 psi. This is based on an 11.83 ppg fracture gradient at 4,175' TVD with a 0.5 ppg safety factor and a pressure gradient of 0.22 psi/ft to surface.
- Maximum anticipated surface pressure while drilling the 6-1/8" production hole is 3,067 psi. This is based on a 10.51 ppg fracture gradient at 8,700' TVD with a 0.5 ppg safety factor and a pressure gradient of 0.22 psi/ft to surface.
- The greatest hazard that is foreseen for this drillwell is lost circulation. Offset wells in the area have had severe lost returns and have taken gas influxes and/or had stuck pipe as a result. The lost circulation risk will be mitigated by monitoring pit volumes and pumping lost circulation material in squeezes and sweeps as necessary.
- The anticipated bottomhole temperature is approximately 300° F.

#### 8. Other Facets of the Proposed Operation.

- Conductor installation: The conductor casing may be pre-installed and cemented by a smaller air/mist drilling rig.
- Surface casing installation: The surface casing may be installed and cemented by a smaller conventional or air/mist drilling rig.

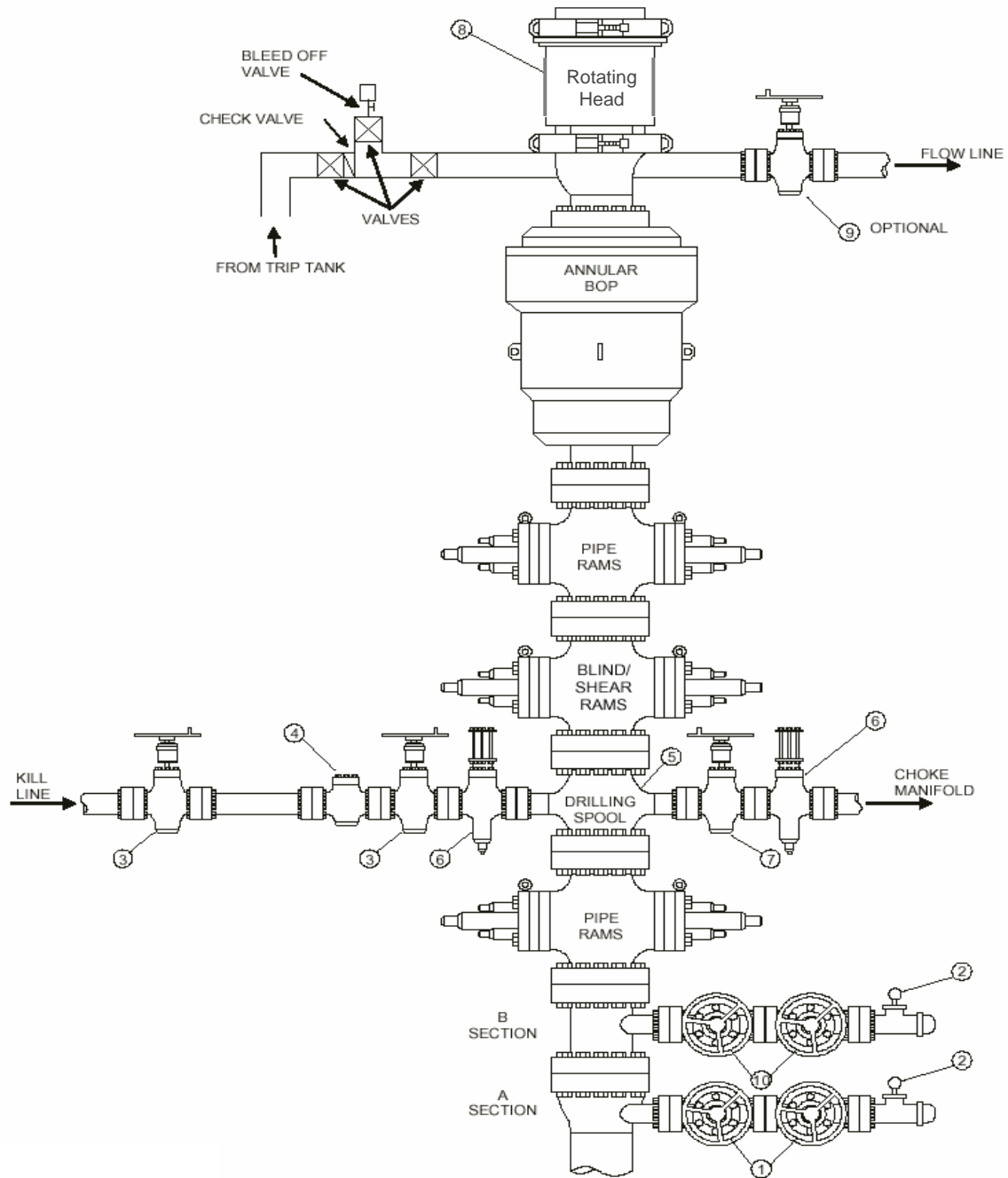


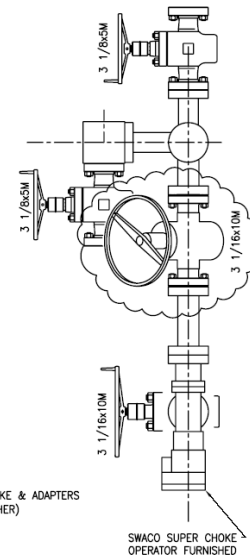
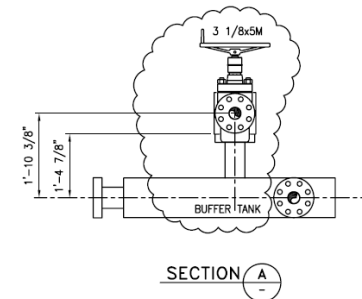
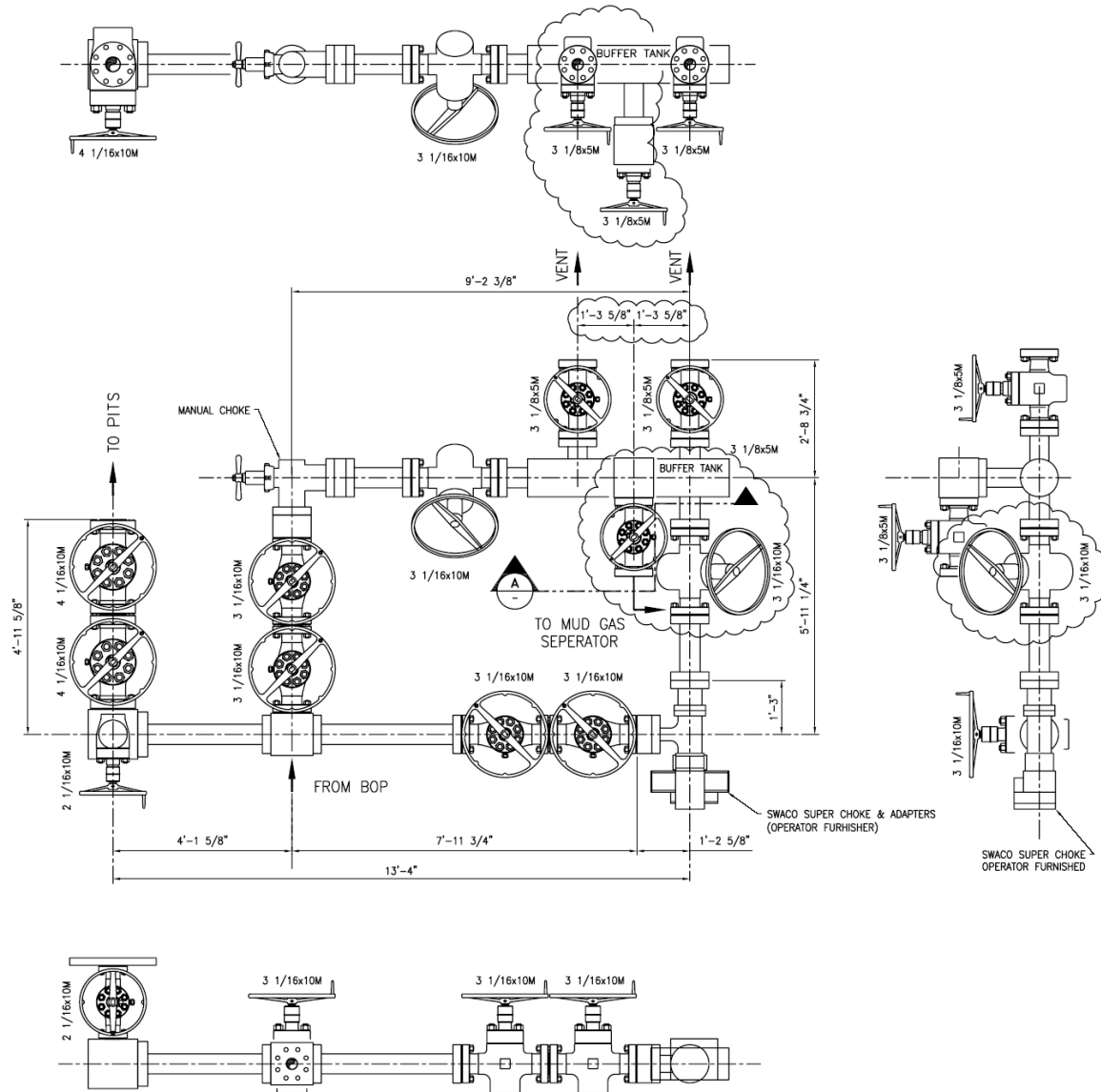
- C. Mud makeup water: Produced water from Piceance Creek Unit wells, Love Ranch wells, or Freedom Unit wells may be one of the sources of water for the mud system in the intermediate and production hole section.
- D. Subsurface hazard mitigation plans: A shallow drilling hazard evaluation was performed by ExxonMobil and no hazardous conditions were identified. Nonetheless, a diverter system will be rigged up on the conductor while drilling the surface hole such that gas flow can be routed to the reserve pits or sand trap, if necessary.
- E. Completion operations: Perforate and frac several intervals throughout the Mesa Verde formation based on wireline logs and shows.

Contact Katie Liddell at (281) 654-0025 with any questions concerning this Drilling Plan.

# ExxonMobil - Piceance Creek

## Typical 5000 PSI BOP Stack Configuration





**ISSUED FOR FABRICATION**  
July-26-2007  
DRAFTSMAN \_\_\_\_\_  
ENGINEER \_\_\_\_\_

<b>HELMERICH &amp; PAYNE</b> INTERNATIONAL DRILLING CO.	
<b>TITLE:</b> 3" NOM-10M CHOKE MANIFOLD	
<b>CUSTOMER:</b> EXXON/MOBIL	
<b>PROJECT:</b> F4S+ RIGS 320,321,325 & 326 ONLY	
<b>DRAWN:</b> MWL	<b>DATE:</b> 01-24-07
<b>SCALE:</b> 1 1/2"=1'-0"	<b>SHEET:</b> 2 OF
<b>DWG. NO.:</b> F4S+-H-601	<b>REV:</b> A

		ENGINEERING APPROVAL		DATE
△				
△				
△				
△				
△	7/26/07	MOVED BUFFER TANK CONNECTION		U
REV	DATE	DESCRIPTION		BY

# PROPRIETARY

THIS DRAWING AND THE IDEAS AND INFORMATION INCLUDED IN THIS DRAWING ARE PROPRIETARY AND ARE NOT TO BE REPRODUCED, DISTRIBUTED OR DISCLOSED IN ANY MANNER WITHOUT THE PRIOR, WRITTEN CONSENT OF A DULY AUTHORIZED OFFICER OF HELMERICH & PAYNE INT'L DRILLING CO.

**SURFACE USE PLAN**  
**Exxon Mobil Corporation**  
**Freedom Unit 197-31C1-C10**  
**Section 31 T1S, R97W 6TH P.M.**  
**RIO BLANCO COUNTY, COLORADO**

- a. EXISTING ROADS: Shown on Topographic Map "A",
1. Topographic Map "A" shows the proposed well as staked.
  2. Beginning at the city of Rifle Colorado, proceed north on Colorado Highway #13 for approximately 18.8 miles to the junction of Rio Blanco County Road #5. Turn west on CR 5 for approximately 26.9 miles to the junction of Rio Blanco CR #24. Proceed west on CR #24 for approximately 1.9 miles to CR #31. Turn northwest on CR #31 for 2.3 miles to the junction of CR #83. Turn northeast on CR #83 for 0.2 miles to the existing access road to FRU 197-31A. Proceed (north-northeast) on the FRU 197-31A access road for approximately 1.3 miles. Flagging/ stakes have been set to define the route to the new wellpad.
  3. All existing roads in the area of the drill site are shown on Topographic Map "A". Maintenance of county roads used for access to FRU 197-31C will be coordinated with Rio Blanco County Road & Bridge Department. Non-county roads will be maintained to BLM Manual 9113 standards. Maintenance will include grading, watering for compaction/ dust control, ditch maintenance and ROW treatment for noxious weeds. Weed control will be performed by certified applicator and conform to the Pesticide Use Proposals (PUP) filed with BLM.
  4. This is an exploration well.
- b. NEW or RECONSTRUCTED ACCESS ROADS: Approximately 897'+/- of new access road will be constructed to access the wellpad and production facilities. This includes approximately 779' of road will be required to reroute the existing road around the wellpad construction area. The location of the new/ relocated access road is provided on Topo 'B' (attached).
1. Road Design Criteria. Access roads have been designed to BLM Manual Section 9113 standards for 'Local Road' classification. The new access road will feature a cleared width of approximately 40' with an 18' wide running surface. Typical access road cross-section is provided on Page 12. Road will be crowned with 2% cross-slope.
    - a. The maximum grade for the access road will not exceed 6 %.
    - b. No turnouts will be required for the new/ relocated access road.
    - c. No significant drainages are crossed with the new access road. Two 18" culverts will be installed to facilitate cross-drainage. Culvert locations are shown on ISWMP Figures 2 and 3 (Attached).
    - d. Road will be surfaced to provide 'all-weather' access using 6" compacted road base aggregate. Aggregate for road surfacing will be hauled over existing roads from commercial sources in Rio Blanco County (ie. Connell Gravel Pit).
    - e. No fence crossings/ cattle guards are required for this access road.
    - f. The proposed access roads will be centerline (offset reference) staked prior to construction.

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2. Road Construction & Maintenance. The new access roads will be constructed and maintained to BLM Manual Section 9113 standards for 'Local Road' classification.
  - a. Available topsoil will be removed from the disturbed area and stored in low profile stockpiles at the ROW limits as shown on the typical cross-section. Following construction of the main wellpad/ production facilities access road, the topsoil will be respread on the disturbed area (ditch and road slopes) and reseeded with an approved seed mixture. ROW reclamation will conform to the description provided in Section 'j' of this document.
  - i. Noxious weed control will be performed using licensed local subcontractor (reference Section J.2 of this document). Pesticide use will conform to applicable Pesticide Use Proposals (PUP) filed with the BLM for the Piceance Field Area.
  - b. Erosion control for the access road will be as indicated on ISWMP Figure 2 "Approx Construction Limits & Soil Disturbance Map" attached to this document. Ditches will be used to control drainage. Culverts will be installed as indicated. Contributing drainage areas/ flow velocities are low. Rip-rap will be installed at inlet/ outlet of culverts as indicated on the ISWMP figures (attached).
  - c. A fill approximately 12' in height will be constructed for the access road immediately SW of the wellpad. Fill materials will be obtained from excess spoil generated during cut/ fill operations on the wellpad. Remaining road subgrade will be constructed using standard cut/fill and side borrow techniques from within the 40' construction ROW.

c. LOCATION OF EXISTING WELLS

- |                                     |             |
|-------------------------------------|-------------|
| 1. Water Wells:                     | See Topo C. |
| 2. Abandoned wells:                 | See Topo C. |
| 3. Temporarily abandoned wells:     | None.       |
| 4. Disposal Wells:                  | None.       |
| 5. Drilling Wells:                  | None.       |
| 6. Producing Wells:                 | See Topo C. |
| 7. Shut-in Wells:                   | See Topo C. |
| 8. Injection Well:                  | None.       |
| 9. Monitoring or observation wells: | None.       |

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**RIO BLANCO COUNTY, COLORADO**

d. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES:

Production Facilities will be located on the wellpad as per the attached 'Production Facilities Layout Plan' (Dwg WP197-31C-09-002). Unused areas of the wellpad will be reclaimed, as described in Section 'J' of this document, following drilling & completion operations. The following table describes the primary production facilities for this wellpad:

**Production Facilities Description**

<b>Facilities</b>	<b>Design Standard</b>	<b>Description</b>	<b>Purpose</b>
Dual Separator Skid	ASME B31.3	Enclosed production equipment including:	
	ANSI 300	1) 53" x 12' 3-phase production separator	Separate gas, condensate, and water from wells not in the test separator and to measure gas production from all wells (including the well in test); gas will flow through the production separator's gas orifice meter prior to leaving the well pad; this will serve as the gas sales measurement
	ANSI 300	1) 30" x 8' 3-phase test separator	Test to determine gas, condensate, and water rates from individual well in the separator; Orifice meter for gas, Turbine meter for condensate, magnetic meter for water.
Flowline from Wellhead to Manifold	ASME B31.3	3" XXH Fusion bonded externally coated pipe	Carry full well stream production to manifold
Manifold	ASME B31.3	Multiwell manifold/ header system	Allows full well stream from each well to flow either to the test separator or the production separator
Gas Flowline	ASME B31.3	On pad Flowline	Flow gas from the separator to the gas gathering system tie in point on the edge of location
Gas Flowline	ASME B31.8	Off pad Flowline	Flow gas from the pad into the gas gathering system
Liquids Flowlines	ASME B31.3	On pad flowlines	Flow combined liquids from onsite separation to tie in point on edge of location
Liquids Flowlines	ASME B31.4	Off pad flowlines	Flow combined liquids into the gathering system to the PA battery.

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- i. The proposed facilities will consist of an underground flowline from each wellhead to a manifold system. The manifold system will allow full well stream from each well to flow either to the test separator or the production separator. The 3-phase test separator will be used to verify gas, condensate, and water rates from the individual well in the separator. The 3-phase production separator will be used to separate gas, condensate, and water from the remaining wells. The daily production from each well will be allocated back based on each well's respective quarterly well test.

- ii. **FLOWLINES:**

Gas from the sales measurement unit will then flow into a new eight (8) inch carbon steel buried flowline and off the well pad. This flowline will tie into the 10" gas trunkline from FRU 197-31A located approximately 90' southwest of the wellpad (see Topo 'D' – attached).

Condensate and produced water from the separator skid will flow into a four (4) inch carbon steel combined liquids line to be buried to the tie-in point on the combined liquids line originating from FRU 197-31A located 90' southwest of the wellpad (see Topo 'D' – attached). Condensate from the pad will be sold via lact unit at the recently installed Black Sulfur Separation Facility (Piceance Phase 1). Condensate production rates of individual wells will be allocated back based on condensate production measurements taken via the test separator.

This configuration of facilities is as agreed to in the 'Measurement & Reporting Plan for Piceance Basin Development' dated February 16, 2006.

Flowline Construction. The flowlines will be buried in a common trench with minimum 3' of cover. BMPs (shown on attached ISWMP Figure 2) will be utilized to minimize potential impacts from the pipeline construction. Woody debris material will be cleared and rolled to the downgradient side of the right-of-way where feasible to act as brush barrier. Wattles will be installed on the eastern side of the ROW and along the southern portion where the pipe ties into an existing line. Topsoil will be stored on one side of the proposed trench (the upgradient side where feasible) and will be kept within the existing right-of-way. Topsoil will be kept separate from the spoils. Spoil stockpiles from trench excavation will either be stored between the topsoil and the trench or on the opposite side of the trench from the topsoil. Wattles may be installed on the downgradient boundary of stockpiles when there is potential for sediment to leave the pipeline right-of-way. Once the pipe has been installed, the trench will be backfilled with the excavated spoils and compacted as required by the specifications. The topsoil will then be spread back across the disturbed area. Water bars will not be installed on this pipeline due to the relatively flat slope (< 2 %).

The disturbed area will be reseeded, mulched and crimped as part of final reclamation using a BLM-approved seed mixture. Seeding success will be periodically evaluated. Successful vegetation is expected within three growing seasons. Reseeded areas will be inspected periodically to ensure success. In the event that seeding does not appear to germinate, areas will be reseeded.

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iii. Surface Disturbance (linear facilities):

Purpose	Length	X	Width	= Square Feet	Surface Area Disturbed (43560 ft <sup>2</sup> /acre)
Flowline(s) 8" Gas 4" Comb Liq 4" PWDD	150'	X	50'	7,500	0.2 acres
Road	897'	X	40'	35,880	0.8 acres
Total Planned Disturbance:					1.0 Acres

e. LOCATION AND TYPE OF WATER SUPPLY.

Fresh water will be trucked from permitted ExxonMobil surface water storage facilities: Love Ranch Fresh Water Storage Pond (Sec 9, T2S, R97W) and B&M Fresh Water Storage Pond (Sec 26, T2S, R97W). Water will be hauled to the location using existing roads as shown on Drawing No. WP197-31C-09-001 (attached). No new roads will be constructed for purpose of water haulage.

Produced water used for drilling & completion operations will be supplied from the nearby ExxonMobil Produced Water Distribution and Disposal System (PWDD) trunkline (see Topo 'D'). A 4" pipeline will be installed in the same trench with the gas and produced water collection pipelines described under Section 'd' (above). No additional disturbance will be required.

Anticipated water sources and volumes are provided on Page 13.

f. CONSTRUCTION MATERIALS:

1. Wellpad sub-grade will be constructed by normal cut and fill methods. Cut has been balanced to meet fill requirements. No offsite borrow will be required to construct the subgrade. Construction techniques are described in Section 'i' of this document.
2. Surfacing material will be hauled over existing roads from commercial sources in Rio Blanco County (ie Connell Gravel Pit).

g. METHODS FOR HANDLING WASTE:

Waste materials will be contained and disposed of as follows:

1. Drilling fluids will be contained in lined pits or steel tanks on the wellpad during drilling operations. The reserve and dry cuttings pit/ trenches will be lined using synthetic liner with thickness of 24 mil.

Drill cuttings will be disposed of in the reserve pit or dry cuttings pit/trenches and buried with at least 4' of cover. If needed to dry the cuttings and accelerate the pit



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closure process, the cuttings may be solidified by mixing a drying agent. Excess pit liner above 'free board' elevation will be removed and disposed as trash (see Section 4 below).

If cuttings have been removed from the reserve pit and relocated for disposal, the reserve pit will be relined (with min 24 mil reinforced liner) before completion operations begin. Cuttings are transferred directly from the reserve pit to the cuttings pit and are not stored directly on the wellpad.

2. In the event that ExxonMobil Corporation has used diesel in the drilling mud system and the drill cuttings/fluids contain greater than 1% diesel net weight, these cuttings will be transported via tanker truck over existing roads a state approved disposal site. The BLM White River Resource Office (Petroleum Eng Tech – Bill Kraft at 970-878-3873) will be contacted prior to testing the cuttings from our first well so the BLM may witness the testing procedures. Currently disposal sites on our approved list in the area are:

Ace Oilfield Disposal, Inc. (Vernal, UT )  
RN Industries (Roosevelt, UT)

3. All mud cuttings will meet the requirements of the COGCC before being buried on-site. All cuttings will have all harmful properties of the waste reduced or removed and the mobility of leachate constituents reduced or eliminated.
4. Trash, waste paper, and other garbage will be contained in (closed) metal trash dumpsters on the wellpad site and hauled (by third party contract trucking) to the Rio Blanco County Landfill.
5. Salts that are not used in the drilling fluid will be removed from the location by the supplier. Empty sacks are placed in the trash for disposal to landfill (reference Item 6 above).
6. Sewage from the trailer houses will be disposed of in a manner meeting the Rio Blanco County Regulations, as under the guidance of Colorado Water Quality Control Commission, Department of Public Health and Environment.  
  
Sewage will normally be stored, on-site, in above ground septic tanks. Contents are periodically hauled to municipal water treatment plants at Meeker and Craig, Colorado for disposal.
7. Chemicals that are not used in the drilling and completion of the well will be removed from the location by the supplier. Used drums are returned to the vendor for reuse.
8. Waste oil are handled by a third party contractor during oil change operations and removed from the wellpad for recycling. Oil filters, oily rags and other hydrocarbon contaminated wastes are stored onsite in 55 gallon waste disposal drums and removed from the wellpad by third party contractor for disposal at a licensed facility. Used glycols are stored in 55 gallon drums for collection by a third party contractor and removed from the wellpad to a licensed disposal/ recycling facility. All drums containing waste oils/ used glycols are stored in a lined/ bermed area (on the wellpad) with 110% (volume) storage capacity.
9. Drilling fluids will be removed by vacuum truck to another active location and/or will be allowed to evaporate in the reserve pit until the pit is dry enough for back filling. Water produced during tests will be disposed of in the reserve pit as per Onshore Order 7. Oil produced during tests will be stored in test tanks until sold, at which time it will be hauled from the site. In the event fluids in the pit do not evaporate in a

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reasonable time, the fluids will be hauled to a state approved disposal site or will be mechanically evaporated.

Pits containing water that would provide a medium for breeding mosquitoes will be treated to control mosquito larvae. Treatment will include application of Bti (*Bacillus thuringiensis v. israelensis*) or other approved mosquito larvacide.

10. The reserve pit will be fenced on three sides with a 4-strand barbed, woven wire fence, or portable 'cattle panels' during drilling and on the fourth side after the rig is released. Alternate barrier types may also be used upon approval of the BLM. In order to prevent use by migratory birds, reserve pits that store or are expected to store fluids which may pose a risk to such birds, during completion and after completion activities have ceased, shall be netted. If any other means than netting are used, ExxonMobil will notify BLM prior to beginning completion activities.
  11. Water separated during production operations will be transported from the site via dedicated pipeline (reference Section 'd' above) and combined with water produced from other active wellpads in the field area to the Piceance Produced Water Disposal (PWD) system located at the ExxonMobil Black Sulphur separation facility. The PWD system will pressurize the produced water for disposal at permitted water injection wells located in the PCU wellfield area or for reuse in drilling & completion operations.
- h. ANCILLARY FACILITIES: No offsite camps, airstrips, etc. will be constructed.
- i. WELL SITE LAYOUT NARRATIVE & PLAT:
1. Figure 1 (Sheets 1 - 5) provides the proposed well site layout and earthwork requirements. Overall disturbance limits of the wellpad, including BMP installation, are estimated at 8.8 acres. Disturbance limits area shown on attached ISWMP Figures 2 and 3.
  2. All equipment and vehicles will be confined to the access road and pad area outlined in Topographic Maps "A" and "B".
  3. Mud pits in the active circulation system will be steel pits. The reserve and fresh water pits will be lined with synthetic liner with thickness of 24 mil.
  4. Wellpad Construction:
    - a. If snow is encountered, the snow will be removed before construction begins or the topsoil is disturbed and placed downhill of the topsoil stockpile location.
    - b. All available topsoil will be stripped on well locations and access roads, prior to construction, and stockpiled for use in reclamation of the site. Topsoil stockpile will be clearly segregated from any spoil pile and placed in location shown on attached Figure 1 - 'Wellsite Grading Plan'. Topsoil depth at this site is estimated at 6". Topsoil will be temporarily seeded and covered with a wildlife friendly biodegradable erosion control blanket. Additionally, wattles will be installed on the downgradient end of the topsoil pile as indicated on attached ISWMP Figures 3 'Proposed Wellpad BMP Drawing'.
    - c. Wellpad subgrade will be constructed using cut/ fill methods to achieve the required site profile. Embankments may be layer placed or constructed by side casting/ end dumping. The upper 24" of embankments will be installed in compacted layers to achieve a minimum 95% modified proctor density (ASTM D 1557). Rock, if encountered, will be placed in the lower portions of the embankment. No offsite borrow will be required for subgrade construction at this site. Excess cut will be

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stockpiled in areas shown on attached Figure 1 – 'Wellsite Grading Plan'. Cut/ fill slopes will be constructed to achieve stable angles of 1h:1v (cut) and 1.5h:1v (fill).

- d. Aggregate surfacing (road base material) will be hauled, placed, and compacted to achieve necessary thickness to provide 'all weather' surface. Aggregate will be obtained from commercial sources in Rio Blanco County (ie Connel Gravel Pit).
5. BMP's associated with stormwater management / erosion control will be applied to the site during construction & drilling/ completion operations. Wattles will be used for perimeter runoff control around the wellpad and stockpiles. Following construction, the need for temporary stabilization measures for cut/ fill slopes will be evaluated based upon rock content and degree of slope. In areas of rock content > 50%, no erosion control measures on slopes will be implemented and primary BMP will be wattles at the toe of the fill slope. Where < 50% rock content, surface roughening and erosion control blankets will be used to stabilize the fill slopes. If field conditions do not allow for effective surface roughening or installation of erosion control blankets, hydromulching may be used. If hydromulching is used, the seed will be sprayed at double the drill seeding rate followed by application of hydromulch. Location & type of BMP's are provided on attached Figure 3 'Proposed BMPs ISWMP Drawing'. No offsite dikes or ditches are required to control runoff to/ from the wellpad.

j. **PLANS FOR SURFACE RECLAMATION:**

1. Upon completion of the drilling & well completion operations and disposal of trash/ debris as described above, pits will be backfilled and recontoured as soon as practical after they have dried. Drill cuttings will be disposed of in the reserve pit and/ or the dry cuttings pits/ trenches. Cuttings will be buried with at least 4' of cover. Excess pit liner above 'free board' elevation will be removed and disposed as trash (See Section 4 below).

If cuttings have been removed from the reserve pit and relocated for disposal, the reserve pit will be re-lined with a 24 mil (min thickness) reinforced liner prior to completion operations. Cuttings are transferred directly from the reserve pit to the cuttings pit and are not placed directly on the wellpad.

2. Unneeded disturbed surfaces remaining after drilling and completion operations will be shaped to match the surrounding terrain and seeded as specified by the BLM. Site specific BMP's associated with 'interim reclamation' will be applied per the ISWMP for this site. The specific measures described below will also be addressed in the ISWMP.
  - a. Areas required for production operations are shown on attached 'Interim Reclamation Plan' for FRU 197-31C (attached ISWMP Figure 5). Approximately 3.1 acres will be required to support production operations. Earthwork for reclamation of unneeded disturbed area (6.0 acres) will normally be completed with 6 months of well completion, depending upon season.
  - b. Regrading will consist of cut/ fill operations to return disturbed areas not required for production to approximate original contour (as shown on the attached 'Interim Reclamation Plan'). Stockpiled spoil will be incorporated into the regraded area in locations which will be available for final recontouring upon well abandonment. Shale/ rock will be placed in the lower portions of filled areas as appropriate. Following regrading, areas compacted by earthworks will be scarified to a minimum depth of 6" and the stockpiled topsoil will be distributed evenly across the reclaimed area.

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- c. Following topsoil placement, the seedbed will be prepared by disking or ripping. The area will be seeded with the approved BLM seed mixture for 'Pinion Juniper Woodlands' (Seed Mixture #3). Seed will be certified and free of noxious weeds. Seed certification tags will be submitted to the area manager. Seed will be drilled 'on contour' to a depth no greater than ½". In areas too steep to operate the seed drill, seed will be broadcast at double the seeding rate and harrowed into the soil. Alternatively, hydromulching may be used in these areas. If hydromulching is used, the seed will be applied first at double the seeding rate prior to hydromulch application. No soil treatments are planned for this site. All slopes 3(h):1(v) or steeper will be covered with wildlife-friendly biodegradable fabrics (such as, but not limited to, jute blankets, Curlex, etc.).

Erosion control BMP's will be used along the pipeline ROW during construction and until successful vegetation has been established in the disturbed area as indicated on ISWMP Figure 2 (Attached).

- d. Following seeding and placement of biodegradable fabrics (as required), woody debris cleared during initial construction will be pulled back over the recontoured/ partially reshaped areas to act as flow deflectors and sediment traps. Available woody debris will be evenly distributed so as not to account for more than 20% of total ground cover (or 3 – 5 tons/ acre).
- e. Immediately after interim reclamation is concluded, livestock grazing will be excluded from all reclaimed portions of the wellpad by installation of a four-strand BLM Type-D barbed wire fence with braced wooden corners. A BLM-specified cattleguard will be placed at the time of fence construction for vehicle access to the wellpad and production facilities. Once reclaimed plant species are fully established (and reviewed/ approved by WRFO), the fence and cattle guard will be completely removed after a minimum of 2 growing seasons.
- f. BMP's during interim reclamation will include surface roughening, seeding and erosion control blankets. Runoff from the regraded areas will continue to be controlled at the perimeter of the disturbed area using wattles. These measures will continue to be maintained around the perimeter of the site until stabilization of the reclaimed areas has been achieved.

Plans for implementation of specific BMP's on the wellpad, access road and pipeline during 'interim' reclamation are shown on ISWMP Figure 5 (attached).

- i. Noxious weed control will be performed 1 – 2 times annually (during the growing season). Weeds to be treated include houndstongue, black henbane mullein, spotted/ Russian knapweed, leafy spurge and toadflax. Applications will be performed by certified pesticide applicator and conform to approved BLM Pesticide Use Proposals (PUP) specific to the Piceance Creek field area.
- g. Upon final abandonment of the wells, ExxonMobil will return all remaining disturbed areas to approximate original contour and rehabilitate the road and location to a satisfactorily revegetated, safe and stable condition per BLM specifications. If final reclamation requires disturbance > 1 acre, stormwater permit coverage under the State's stormwater program will be re-opened.
- i. Topsoil will be removed from remaining sideslope and temporarily regraded areas (interim reclamation) and stockpiled for redistribution on final graded areas.
- ii. Natural drainage patterns will be restored and stabilized by application of BMP's per approved SWMP for this site. These BMP's include surfacing

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roughening, permanent seeding and may include use of erosion control blankets following regrading operations. Storm runoff from the regraded areas will continue to be controlled using wattles and other appropriate BMP's until stabilization of the reclaimed area has been achieved.

- iii. Procedures for reseeding & mulching described for interim reclamation (ref Paragraphs (c) and (d) above ) will also be followed for final reclamation of the site.
- iv. Livestock will be excluded from the final reclaimed wellpad areas by installation of a four-strand BLM Type-D barbed wire fence with braced wooden corners, unless otherwise instructed by the BLM.
- h. Rehabilitation operations (both interim & final) will start in a timely manner following the completion of operations, typically the following construction season. Site specific BMP's will be applied as described above. Additional reclamation efforts will be undertaken if, after the first growing season, there are no positive indicators of successful establishment of seeded species (ie germination). Reclamation efforts will continue so as to ensure a sufficient vegetative ground cover from reclaimed plant species within (3) three growing seasons after the application of seed.

k. **SURFACE OWNERSHIP**

- 1. Surface and minerals ownership at the wellpad is the Bureau of Land Management (BLM). Agency Address:

Bureau of Land Management, White River Field Office, 220 E Market St., Meeker Co. 81641. Telephone: 970-878-3800.

l. **OTHER INFORMATION**

- 1. There is one dominant soil unit for the well pad, roads, and pipeline: Rentsac Channery Loam, 5 to 30 percent slopes (Map Unit #73). This shallow, well-drained soil is on ridges, foothills, and side slopes. This soil is typically found on 5 to 50 percent slopes. The soil is classified as HSG D which indicates a very slow infiltration rate and a high runoff potential. Permeability is moderately rapid and available water capacity is very low. Additionally, runoff is rapid and the hazard of water erosion is moderate to very high. The erosion factor K is 0.20 which represents a moderate susceptibility to sheet and rill erosion. The off-road and off-trail erosion hazard is moderate and the road and trail erosion hazard is severe.

Fragile soils, defined by the BLM as saline soils occurring on slopes greater than 35 percent, are not indicated around the well pad, roads, or pipelines. Although fragile soils are not indicated, several measures have been used to properly stabilize soils and retain soil productivity. BMPs that will be utilized to include installing wattles and brush barriers during construction, limiting the time of construction to the extent feasible, covering and seeding topsoil piles associated with the well pad, and seeding, mulching and crimping after construction has been completed.

Primary vegetation is sage brush, grass and pinon, and juniper trees.

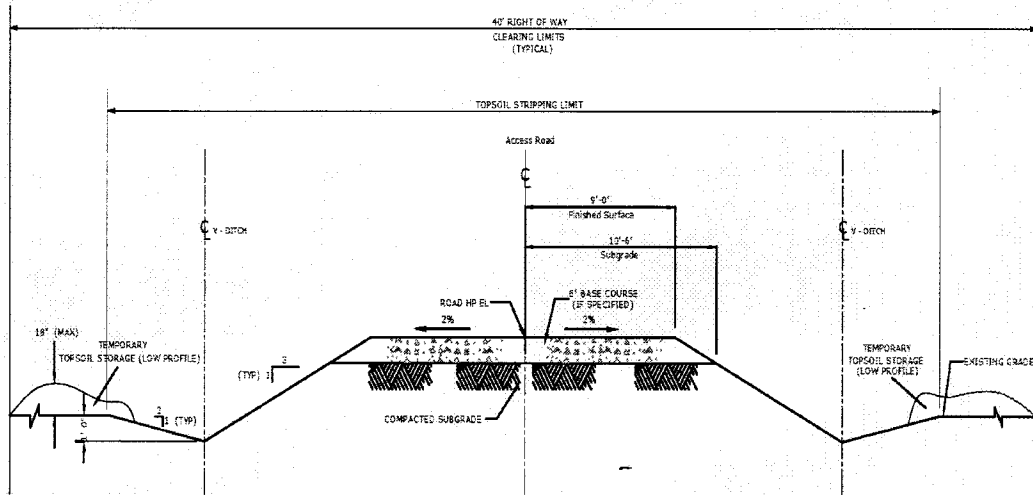
- 2. An archaeological investigation will be conducted and report prepared for the proposed access road and well site. Information will be submitted to the BLM.
- 3. The onsite for this pad was conducted in October, 2005. The well site name at the time of the onsite was FRU 197-31C.

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4. The proposed well pad is located near the crest of a ridge. Primary drainage from the wellpad/ access road flows (south/ southeast) to an unnamed intermittent drainage discharging to Ryan Gulch. Some drainage from the wellpad will also flow north into Horse Draw. Both Ryan Gulch and Horse Draw are intermittent drainages which flow (easterly) to Piceance Creek.
5. Total surface maximum surface disturbance is estimated at 9.8 acres including the drilling/ production facility pad, new access road, relocated access road, associated flowlines and installation of storm water management BMP's. Maximum disturbed area is indicated on ISWMP Figure 2 (attached).

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**TYPICAL SECTION ACCESS ROAD**

**NOTES:**

1. See BLM "GOLD Book" for typical "embankment" and "sidehill" section requirements.
2. Road minimum top width 18' unless otherwise noted.
3. Clear all areas within Right Of Way.
4. Grubbing/Stripping shall be limited to the area shown.
5. Topsoil stripping depth shall be an average of 4'.
6. Material and compaction of road base shall be in accordance with project specification.
7. Use excavated ditch material to shape subgrade.

**Typical Wellpad Access Road**  
**Cross - Section**  
**Piceance Development Project**

**EXXONMOBIL**

Drawn by: SB      Checked by: SB  
Date: April 25, 2008      Scale: N.T.S.

**Drg No. PC-08-020**

REV.	DATE	REVISION DESCRIPTION	ENG.	DRAWN	CHECKED	APPROVED
P1	25 APRIL 08	Modified ROW Width	---	SB	SB	WFD
P	26 MAR 08	Preliminary	---	SB	SB	WFD

**SURFACE USE PLAN**  
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**Freedom Unit 197-31C1-C10**  
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 RIO BLANCO COUNTY, COLORADO

**Water Source & Delivery Information (Per BLM Onshore Order #1)**

Water Use Operation	Volume per Well (Bbls -Est)	Volume Per Wellpad (Bbls -Est)	Water Type	Water Delivery Method	Water Source	Permit Number	Comments
Construction	N/A	20,000	Fresh	Truck	ExxonMobil B&M and Love Ranch Fresh Water Reservoirs	Appropriation Number 98CW259	See Haul Route Map (Attached)
Dust Abatement	N/A	10,000	Fresh	Truck	ExxonMobil B&M and Love Ranch Fresh Water Reservoirs	Appropriation Number 98CW259	See Haul Route Map (Attached)
Drilling	10,000 (Surface Section)	100,000	Fresh	Truck	ExxonMobil B&M and Love Ranch Fresh Water Reservoirs	Appropriation Number 98CW259	See Haul Route Map (Attached)
Drilling	24,000 (Int & Prod Sections)	240,000	Produced (SWD)	Pipeline	PCU PWD System	N /A	Pipeline will tie-into FRU 197-31A PWD pipeline.
Completion	50,000	500,000	Produced (SWD)	Pipeline	PCU PWD System	N/A	Pipeline will tie-into FRU 197-31A PWD pipeline.



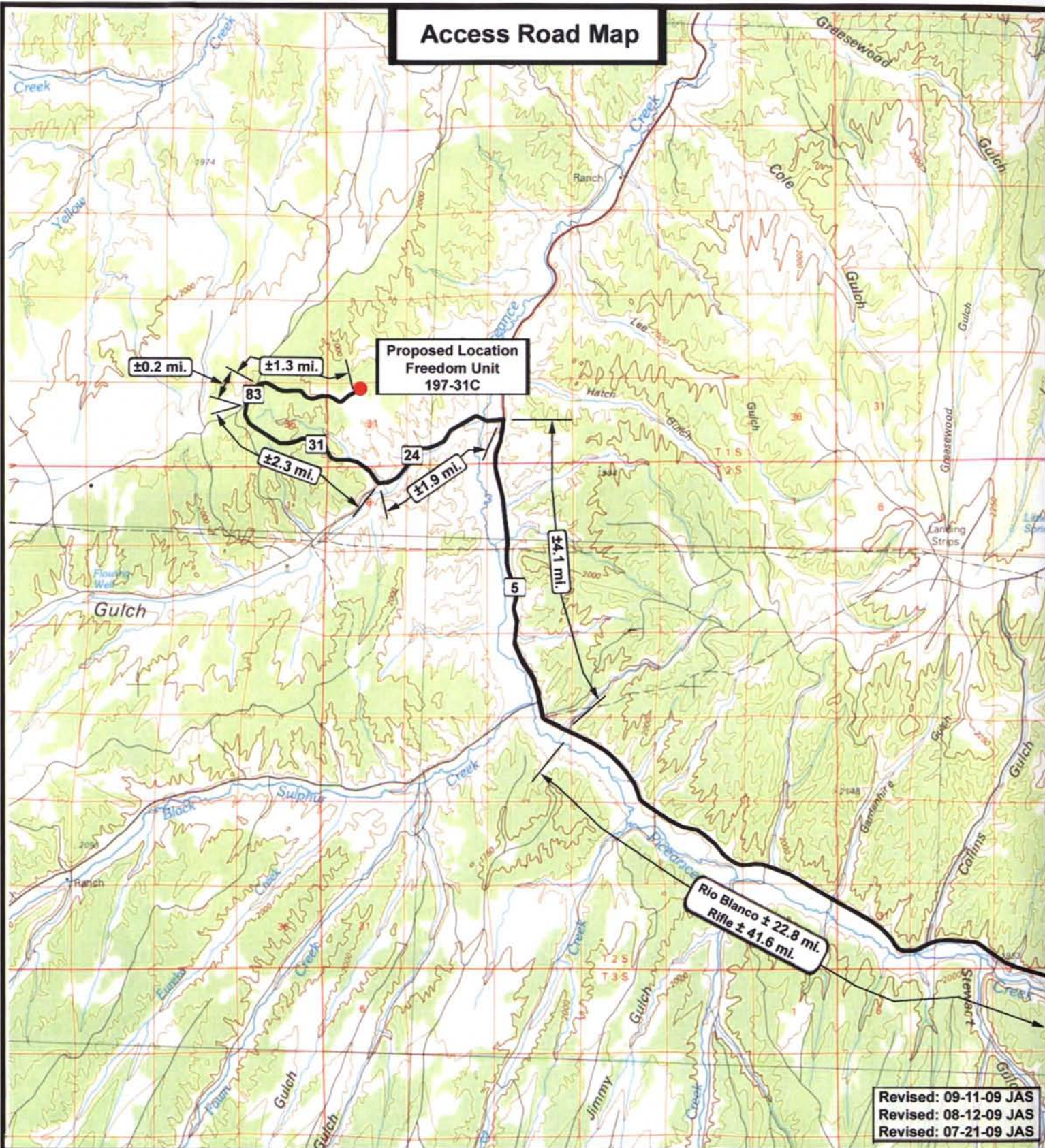
**SURFACE USE PLAN**  
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 RIO BLANCO COUNTY, COLORADO

**ATTACHMENTS**

TITLE	DESCRIPTION	DATE/ REVISION
<b>Topographic Maps</b>		
Topographic Map 'A'	Access Map	9/11/2009
Topographic Map 'B'	Proposed Access Road	9/11/2009
Topographic Map 'B' (Aerial Base)	Proposed Access Road with Aerial Photo Background	8/12/2009
Topographic Map 'C'	Area Map	8/12/2009
Topographic Map 'D'	Flowline Map	9/11/2009
Water Haul Route – Dwg WP197-31C-09-001	Fresh Water Haul Route & Distances to Wellpad	8/18/2009
<b>Wellpad Plans</b>		
Location Layout (Sht 2)	Wellpad Grading Plan	9/11/2009
Cross Sections (Sht 3)	Wellpad Cross-Sections & Quantities	9/11/2009
Typical Rig Layout (Sht 4)	Wellpad Plan View	9/11/2009
Finish Grading Plan (Sht 5)	Wellpad Finish Grade Elevations	9/11/2009
Production Facilities Plot Plan – Dwg WP197-31C-09-002	Wellpad Facilities Layout	8/16/2009
<b>Photos</b>		
Wellpad Photo 1 & 2	Centerstake & Access View	8/18/2009
Wellpad Photo 3 & 4	North & East View	8/18/2009
Wellpad Photo 5 & 6	South & West View	8/18/2009
<b>Storm Water Management Exhibits (BMP's)</b>		
ISWMP Figure 2	Project Construction Limits & Soil Disturbance Map	9/11/2009
ISWMP Figure 3	Wellpad Proposed BMP Drawing	9/16/2009
ISWMP Figure 5	Interim Reclamation Plan BMP Drawing	9/16/2009



# Access Road Map



Revised: 09-11-09 JAS  
Revised: 08-12-09 JAS  
Revised: 07-21-09 JAS

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**Freedom Unit 197-31C  
SEC. 31, T1S, R97W, 6th P.M.**



**Tri-State  
Land Surveying Inc.**  
(435) 781-2501  
180 North Vernal Ave. Vernal, Utah 84078

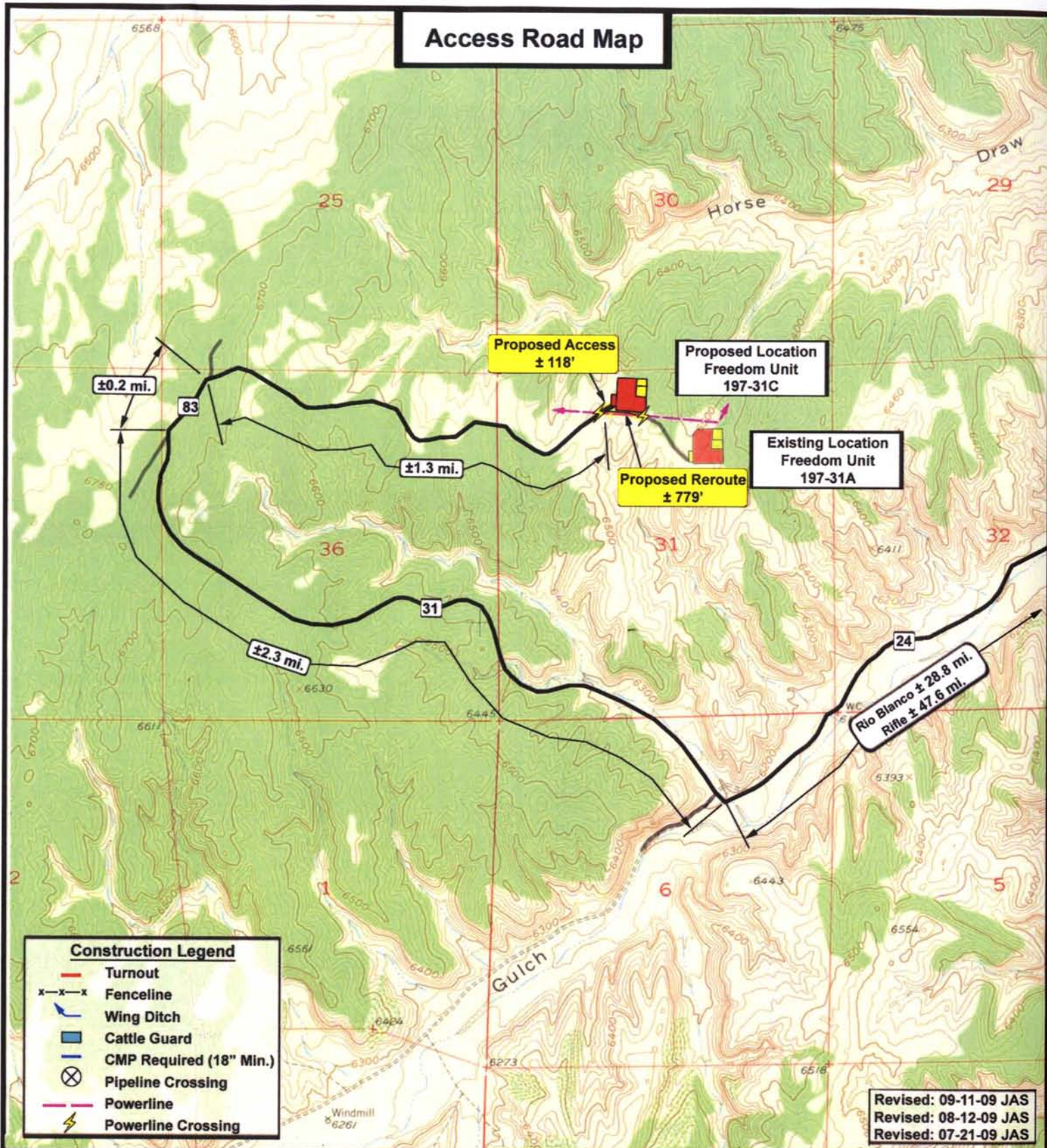
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DRAWN BY: mw  
DATE: 02-21-2006

**Legend**  
Existing Road  
Proposed Access

TOPOGRAPHIC MAP  
**"A"**  
SHEET  
**6**  
OF 9



# Access Road Map



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**SEC. 31, T1S, R97W, 6th P.M.**



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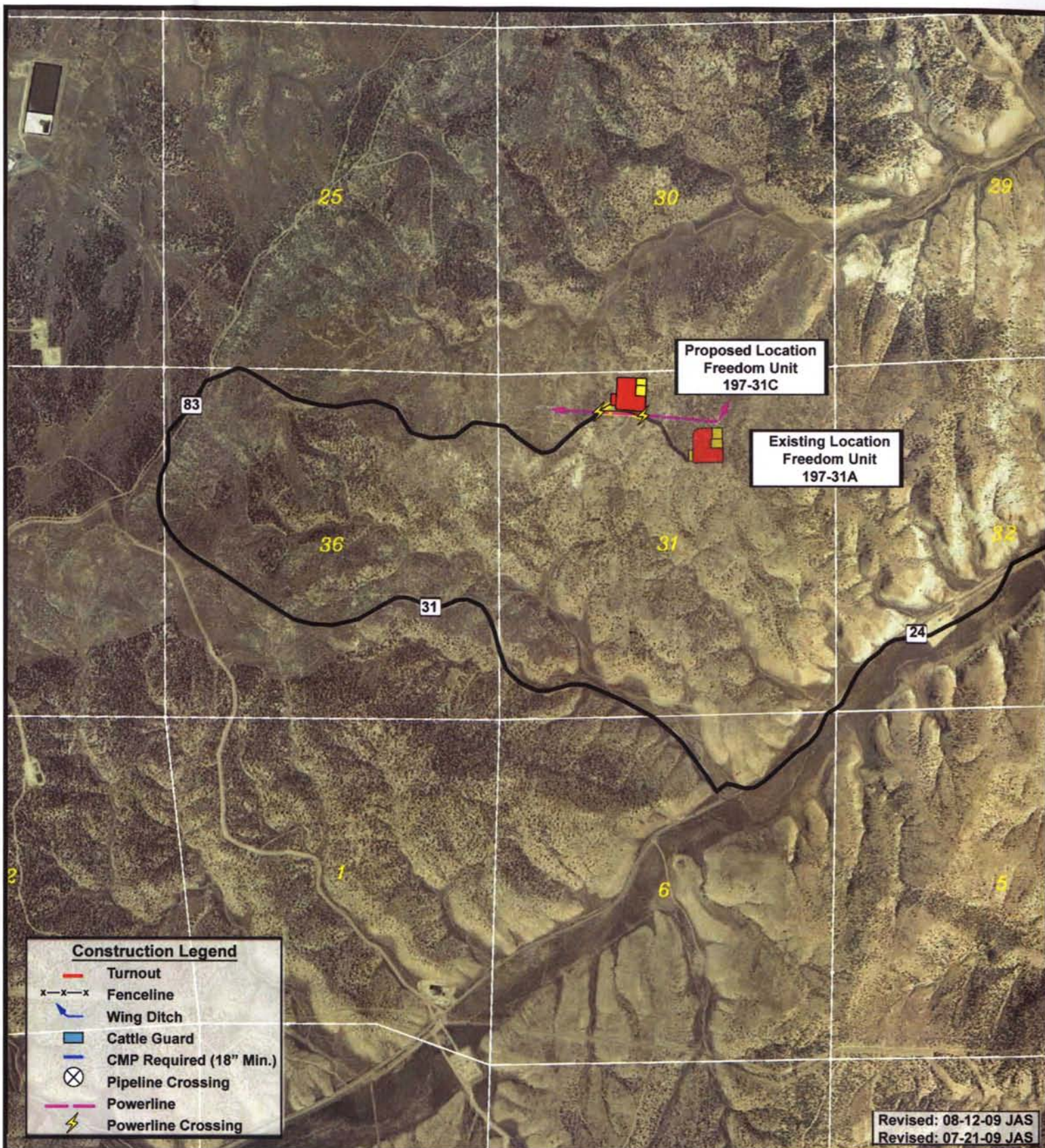
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**DRAWN BY:** mw  
**DATE:** 02-21-2006

**Legend**

- Existing Road
- Proposed Access

**TOPOGRAPHIC MAP** **SHEET**  
**"B"** **7**  
**OF 9**





Revised: 08-12-09 JAS  
Revised: 07-21-09 JAS

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SEC. 31, T1S, R97W, 6th P.M.**



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SCALE: 1" = 2,000'  
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DATE: 07-21-2009

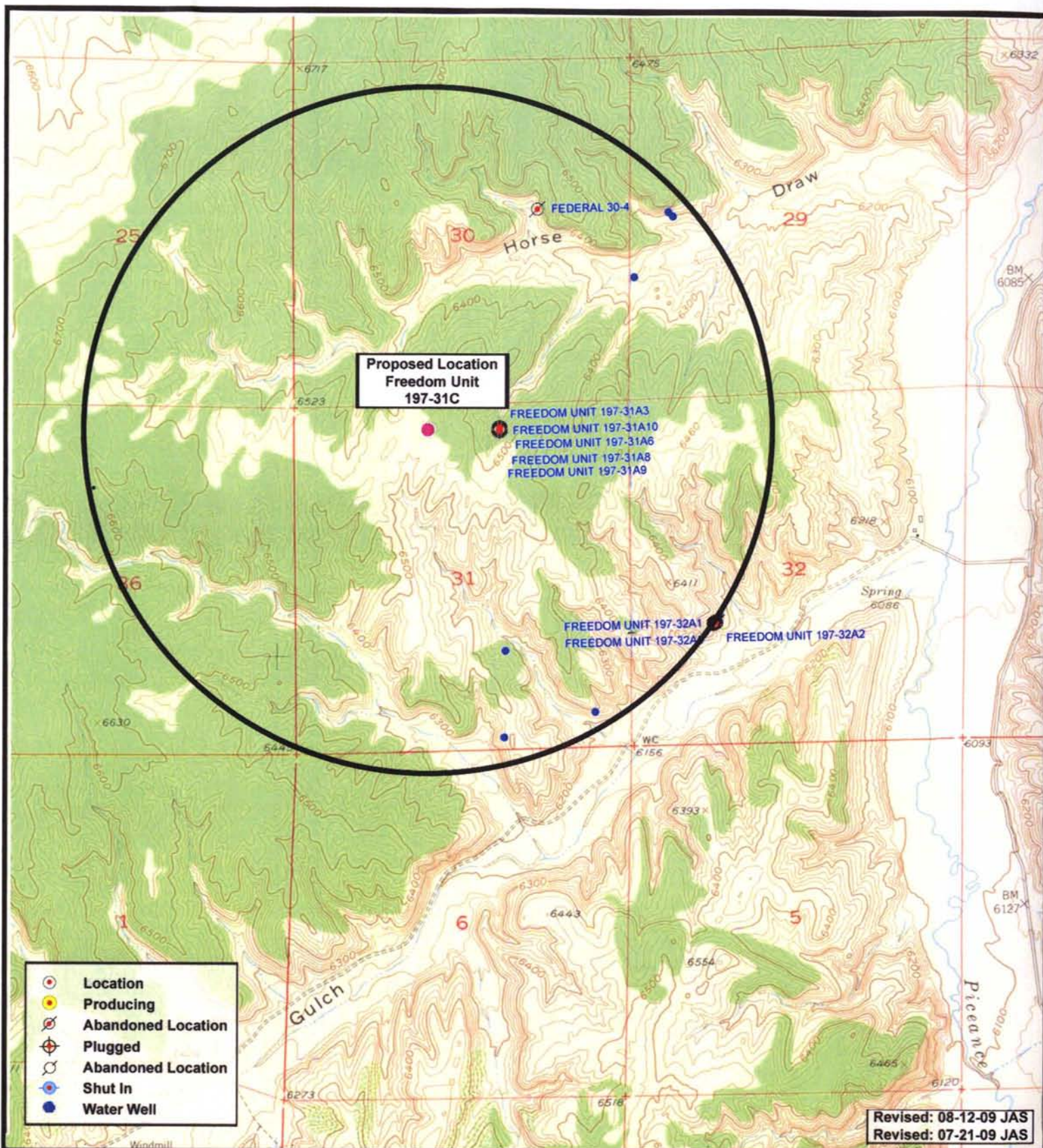
**Legend**  
Existing Road  
Proposed Access

ARIAL MAP

**"B"**

SHEET  
**7**  
OF 9





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**Freedom Unit 197-31C**  
**SEC. 31, T1S, R97W, 6th P.M.**



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**SCALE: 1" = 2,000'**  
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**DATE: 02-21-2006**

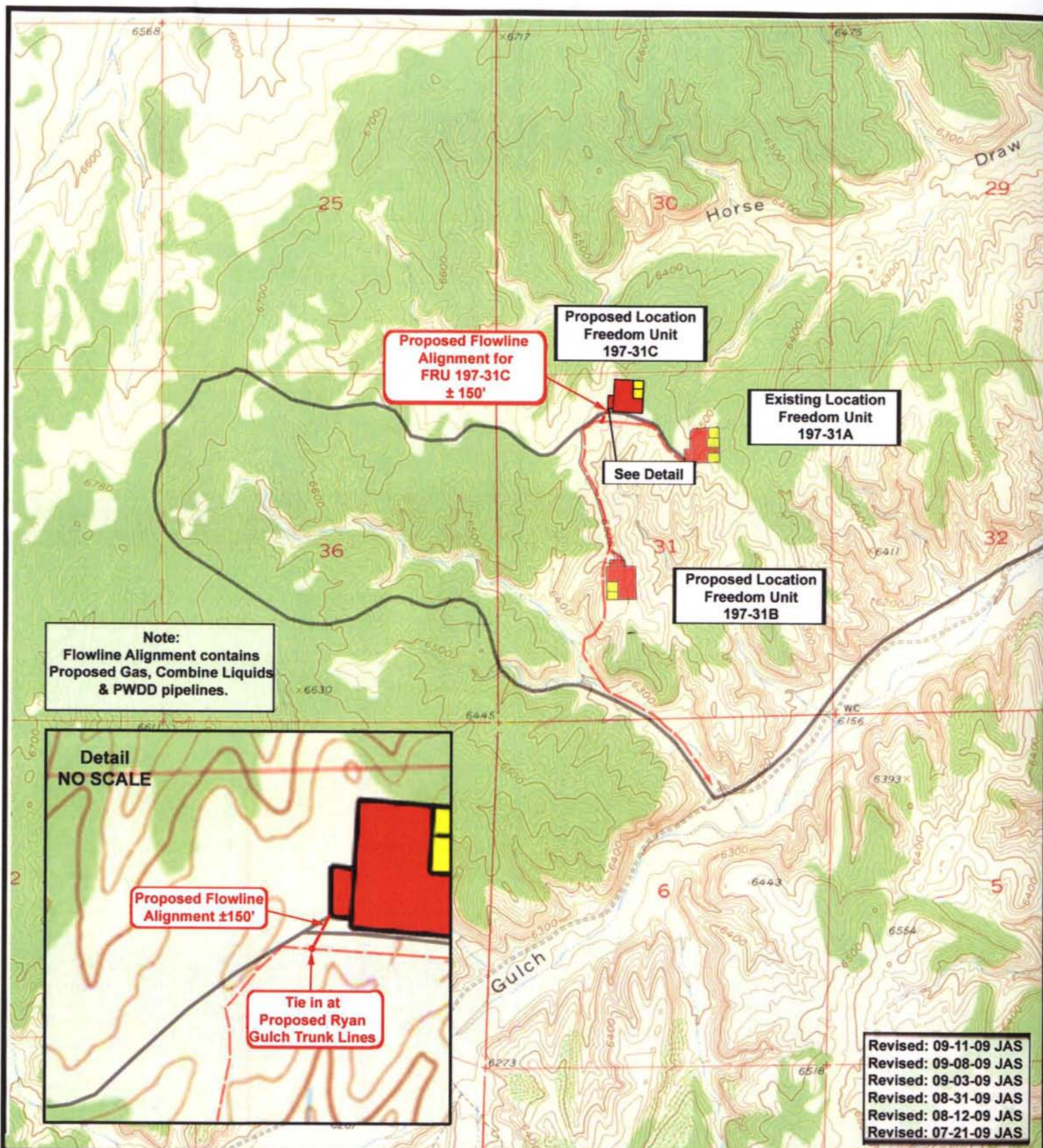
**Legend**

- Location
- One-Mile Radius

**TOPOGRAPHIC MAP**  
**"C"**

**SHEET**  
**8**  
**OF 9**





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SEC. 31, T1S, R97W, 6th P.M.**



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SCALE: 1" = 2,000'  
DRAWN BY: JAS  
DATE: 11-04-2008

**Legend**


— Roads  
- - - Proposed Flowline  
Alignment

**TOPOGRAPHIC MAP**

**"D"**

**SHEET 9**  
OF 9



	Drawn by: CEL	Checked by: CEL
	Date: Aug 19, 2009	Scale: 1":5000'
	Dwg No. WP197-31C-09-001	

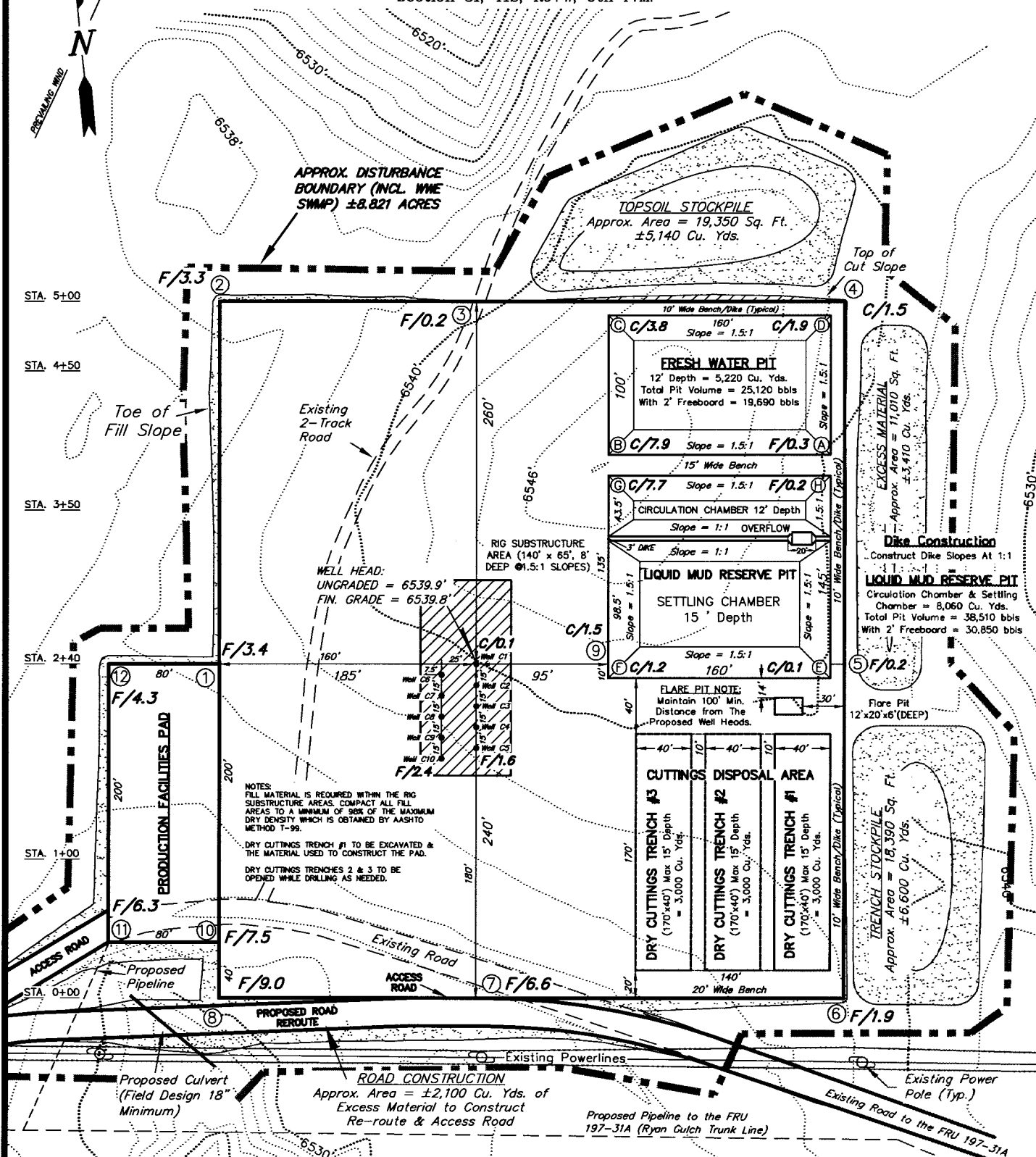


# EXXON MOBIL CORPORATION

FIGURE #1

## LOCATION LAYOUT

WELL PAD (FREEDOM UNIT 197-31C)  
FREEDOM UNIT 197-31C1, C2, C3, C4, C5, C6, C7, C8, C9 & C10  
Section 31, T1S, R97W, 6th P.M.



SURVEYED BY: D.P. DATE SURVEYED: 01-02-06  
DRAWN BY: F.T.M. DATE DRAWN: 02-15-06  
SCALE: 1" = 100' REVISED: R.V.C. 09-11-09

**Tri State**  
**Land Surveying, Inc.**  
180 NORTH VERNAL AVE. VERNAL, UTAH 84078  
(435) 781-2501

SHEET  
**2**  
OF 9

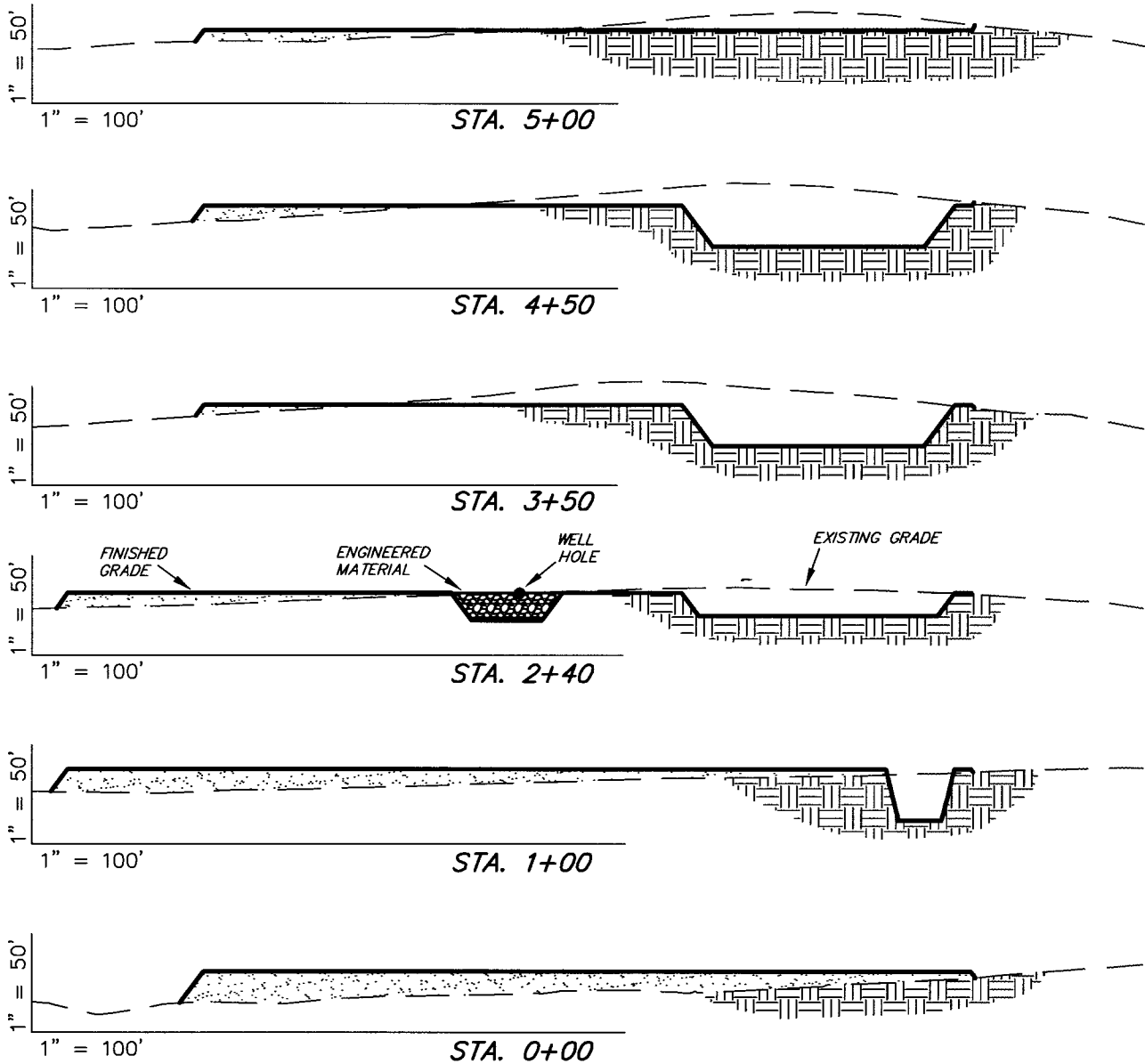


# EXXON MOBIL CORPORATION

FIGURE #2

## CROSS SECTIONS

WELL PAD (FREEDOM UNIT 197-31C)  
FREEDOM UNIT 197-31C1, C2, C3, C4, C5, C6, C7, C8, C9 & C10  
Section 31, T1S, R97W, 6th P.M.



### NOTES:

- 1.) UNLESS OTHERWISE NOTED, CUT SLOPES ARE AT 1:1 & FILL SLOPES ARE AT 1.5:1.
- 2.) RIG SUBSTRUCTURE TO BE EXCAVATED AND USED TO CONSTRUCT THE LOCATION.
- 3.) RIG SUBSTRUCTURE MATERIAL TO BE REPLACED WITH ENGINEERED MATERIAL TO ALLOW FOR 98% COMPACTION.

### ESTIMATED EARTHWORK QUANTITIES (No Shrink or swell adjustments have been used) (Expressed in Cubic Yards)

ITEM	CUT	FILL	6" TOPSOIL	EXCESS
SUBSTRUCTURE	2,020	0	Topsoil is not included in Pad Cut	2,020
PITS	13,280	0		13,280
PAD	10,900	21,190	4,670	-10,290
TOTALS	26,200	21,190	4,670	5,010

SURVEYED BY: D.P. DATE SURVEYED: 01-02-06  
DRAWN BY: F.T.M. DATE DRAWN: 02-15-06  
SCALE: 1" = 100' REVISED: R.V.C. 09-11-09

**Tri State**  
Land Surveying, Inc.  
180 NORTH VERNAL AVE. VERNAL, UTAH 84078  
(435) 781-2501

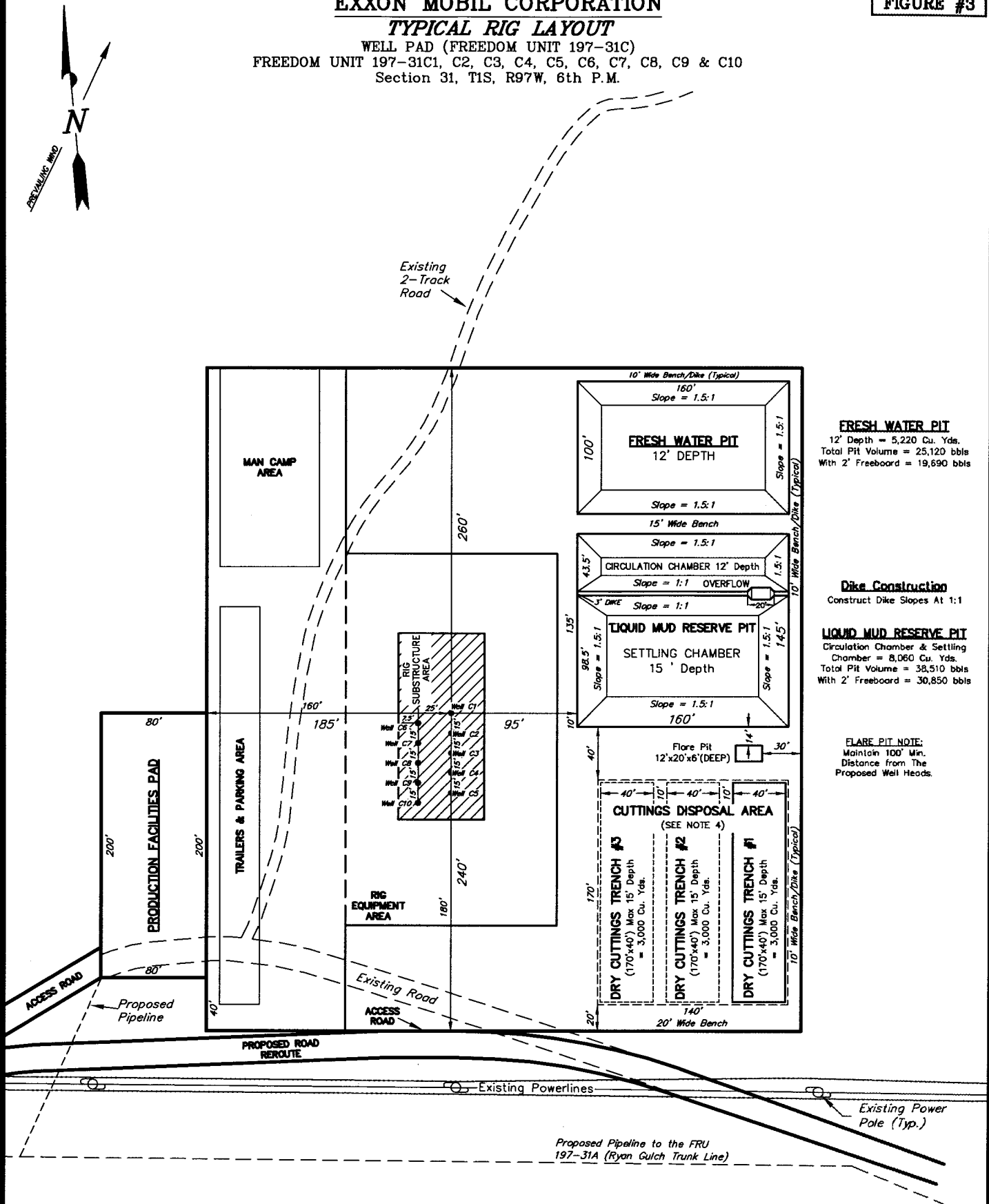
SHEET  
**3**  
OF 9

# EXXON MOBIL CORPORATION

## TYPICAL RIG LAYOUT

WELL PAD (FREEDOM UNIT 197-31C)  
FREEDOM UNIT 197-31C1, C2, C3, C4, C5, C6, C7, C8, C9 & C10  
Section 31, T1S, R97W, 6th P.M.

FIGURE #3



SURVEYED BY: D.P.	DATE SURVEYED: 01-02-06
DRAWN BY: F.T.M.	DATE DRAWN: 02-15-06
SCALE: 1" = 100'	REVISED: R.V.C. 09-11-09

**Tri State**  
Land Surveying, Inc.  
180 NORTH VERNAL AVE. VERNAL, UTAH 84078  
(435) 781-2501

SHEET  
4  
OF 9

# EXXON MOBIL CORPORATION

## TYPICAL FINISH GRADING PLAN

FIGURE #4

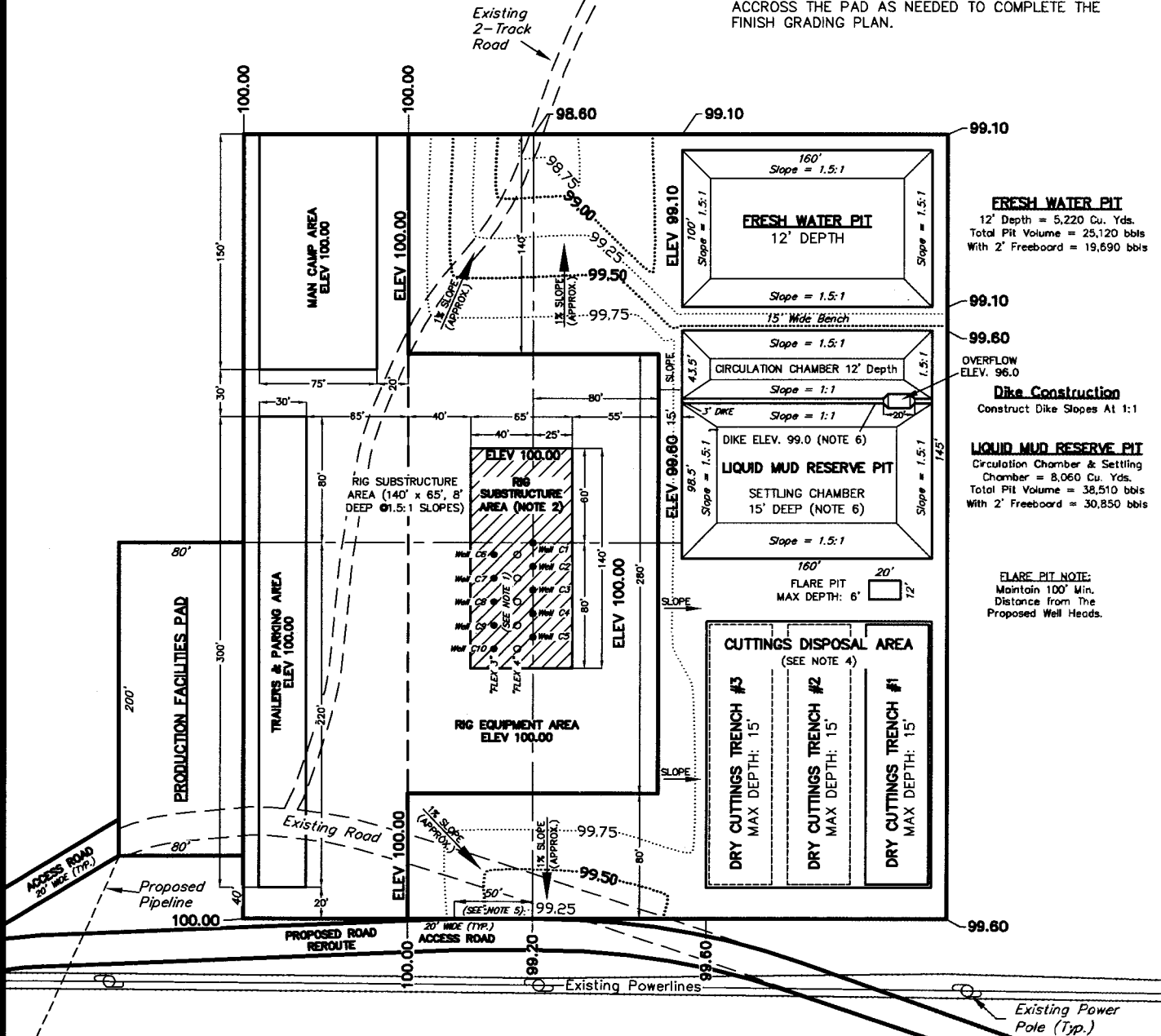
WELL PAD (FREEDOM UNIT 197-31C)  
FREEDOM UNIT 197-31C1, C2, C3, C4, C5, C6, C7, C8, C9 & C10  
Section 31, T1S, R97W, 6th P.M.

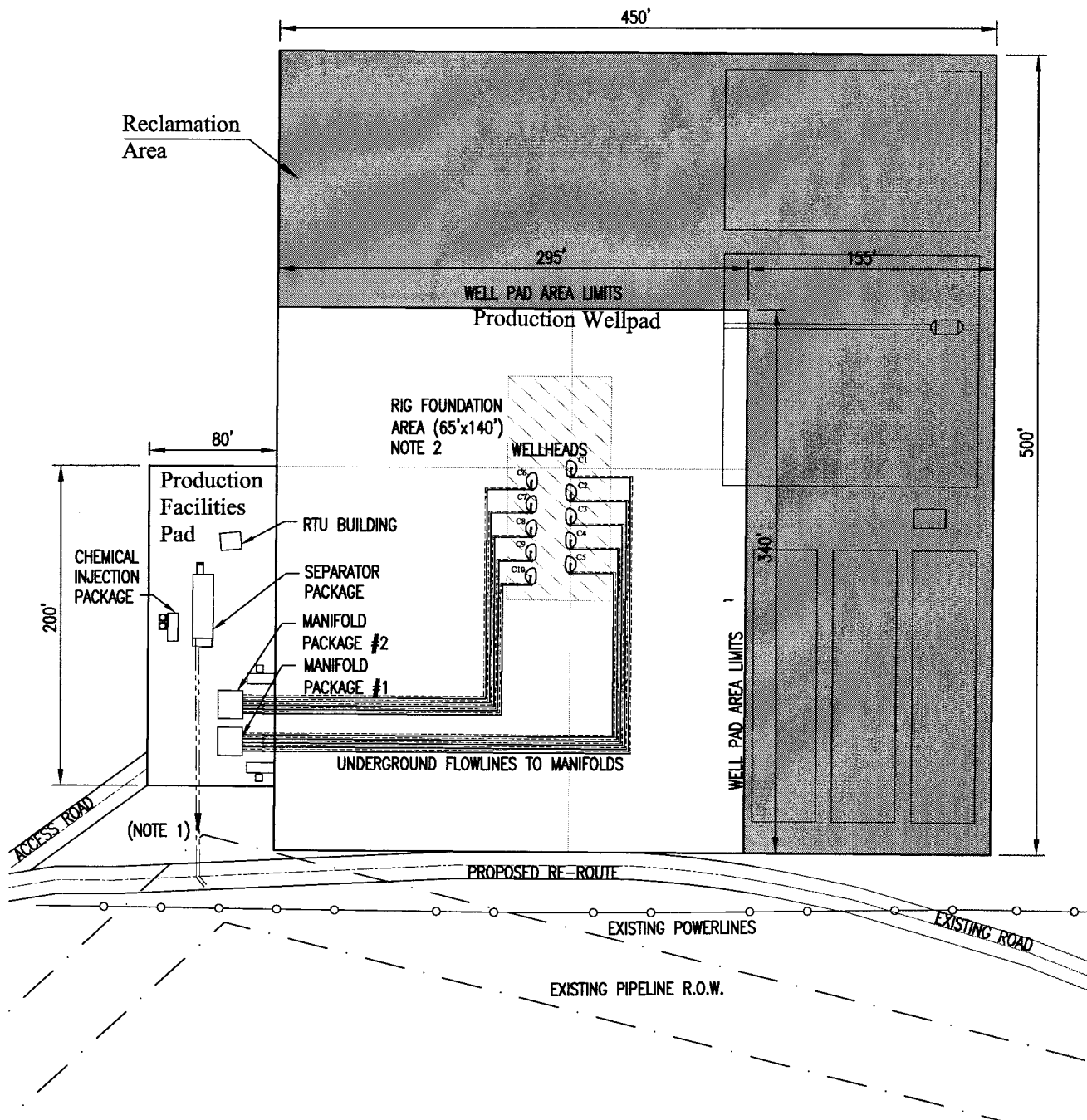


### CONTOUR AND ELEVATION NOTE:

THE REFERENCE ELEVATION OF 100.00 IS EQUAL TO THE ACTUAL FINISHED GRADE ELEVATION ON THE LOCATION LAYOUT (SHEET 2). ALL OTHER ELEVATIONS ARE RELATIVE TO THIS REFERENCE ELEVATION.

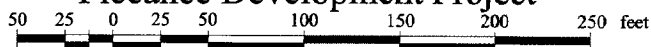
\* FINAL GRADING MATERIAL IS TO BE DISTRIBUTED ACROSS THE PAD AS NEEDED TO COMPLETE THE FINISH GRADING PLAN.



**NOTES:**

1. Gas and Produced Water Flowline to Tie-in to associated trunklines.  
Reference FRU 197-31C- Topo 'D'.
2. Multiple flowline trenches to be installed outside of the indicated Rig Foundation Area.

**Production Facilities Plot Plan**  
**PCU 197-31C**  
**Piceance Development Project**



Scale = 1" : 100'

**EXXONMOBIL**

Drawn by: CEL

Checked by: CEL

Date: Jan 04, 2009

Scale: 1":100'

Dwg No. WP197-31C-09-002

REV.	DATE	REVISION DESCRIPTION	DRAWN	CHECKED	APPROVED
P1	16 Aug 09	General Revision	CEL	CEL	WFD
P	04 Jan 09	Preliminary	CEL	CEL	WFD

## Center Stake

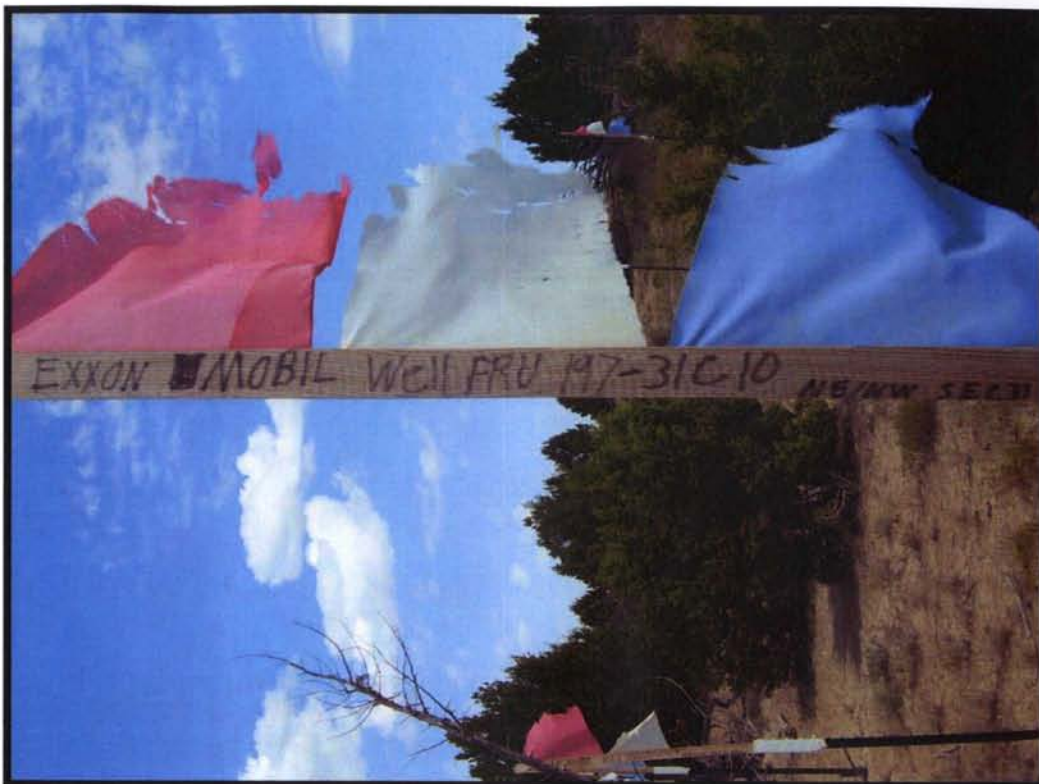
Date Photographed: 08/18/2009

Photographed By: D. Gardiner

NAD 83 - Decimal Degrees

Latitude : 39.925837

Longitude : 108.326123



## Access

Date Photographed: 08/18/2009

Photographed By: D. Gardiner

NAD 83 - Decimal Degrees

Latitude : 39.924512

Longitude : 108.328664



**Exxon Mobil Corporation**

**Freedom Unit 197-31C  
SEC. 31, T1S, R97W, 6th P.M.**

*Tri-State  
Land Surveying Inc.*  
(435) 781-2501  
180 North Vernal Ave. Vernal, Utah 84078

DRAWN BY: 08/20/2009

DATE: JAS

Location

**Rio Blanco County,  
Colorado**

COLOR  
PHOTOGRAPHS

SHEET  
**P1**  
OF 3



## Northerly

Date Photographed: 08/18/2009

Photographed By: D. Gardiner

NAD 83 - Decimal Degrees

Latitude : 39.925750

Longitude : 108.326105



## Easterly

Date Photographed: 08/18/2009

Photographed By: D. Gardiner

NAD 83 - Decimal Degrees

Latitude : 39.918449

Longitude : 108.326212



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180 North Vernal Ave. Vernal, Utah 84078

DRAWN BY: 08/20/2009

DATE: JAS

Location

**Rio Blanco County,  
Colorado**

COLOR  
PHOTOGRAPHS

SHEET  
**P2**  
OF 3



## Southerly

Date Photographed: 08/18/2009

Photographed By: D. Gardiner

NAD 83 - Decimal Degrees

Latitude : 39.926104

Longitude : 108.326043



## Westerly

Date Photographed: 08/18/2009

Photographed By: D. Gardiner

NAD 83 - Decimal Degrees

Latitude : 39.925964

Longitude : 108.325871



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**Freedom Unit 197-31C  
SEC. 31, T1S, R97W, 6th P.M.**

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DRAWN BY: 08/20/2009

DATE: JAS

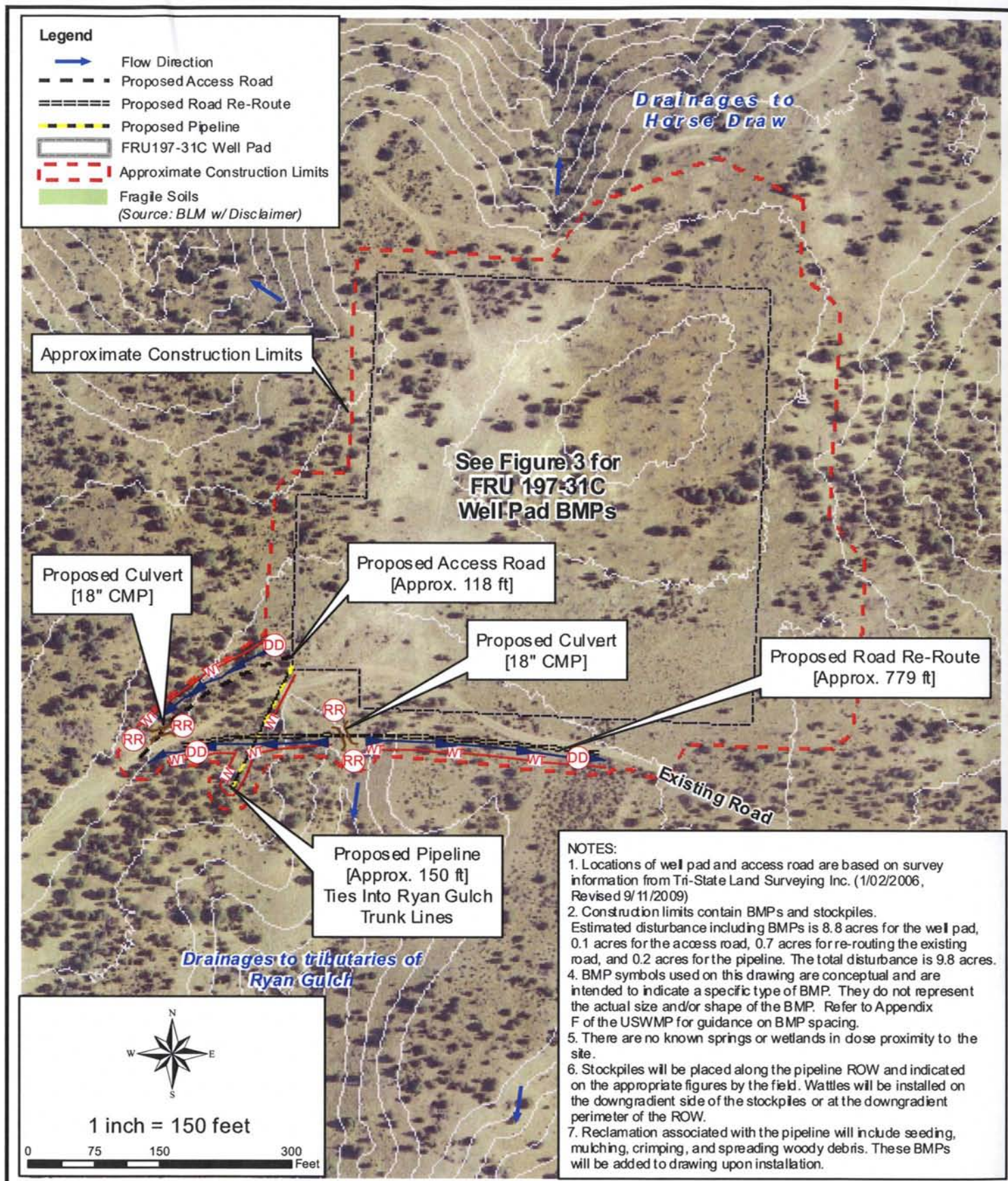
Location

**Rio Blanco County,  
Colorado**

COLOR  
PHOTOGRAPHS

SHEET  
**P3**  
OF 3





05/08/08 GIS; Z:\Project Files\72-99\801-111\801-111.412\CAD-GIS\GIS\Task 024\Revision 7.28.09\Figure 2.mxd

Base Map: USGS Topographic Map- 24 K Series

**WWE**  
WRIGHT WATER ENGINEERS, INC.  
2490 W 26TH AVE 100A  
DENVER, CO. 80211  
(303) 480-1700

RIO BLANCO COUNTY, COLORADO  
**EXXON MOBIL CORPORATION**  
**FREEDOM UNIT 197-31C**  
APPROXIMATE CONSTRUCTION AND  
SOIL DISTURBANCE LIMITS MAP  
SECTION 31, TOWNSHIP 1S, RANGE 97W, 6TH P.M.

PROJECT NO.  
801-111.412  
TASK 24

REVISION:

1	KDW	7/28/09
2	KDW	9/11/09

Revised  
Figure  
**2**



# LEGEND

- RIP RAP
- SURFACE ROUGHENING
- WATTLE
- STOCKPILE MANAGEMENT
- TEMPORARY STABILIZATION (SEE NOTE 7)
- EROSION CONTROL BLANKET AND TEMPORARY SEEDING
- CULVERT
- FLOW DIRECTION

APPROXIMATE CONSTRUCTION LIMITS FOR THE WELL PAD

APPROXIMATE LIMITS OF CONSTRUCTION/DISTURBANCE 8.8 ACRES

SEE FIGURE 2 FOR ADDITIONAL BMPs ASSOCIATED WITH THE ROAD

## NOTES

1. LOCATIONS OF WELL PAD FEATURES ARE BASED ON SURVEY INFORMATION FROM TRI STATE LAND SURVEYING, INC. (09/11/09).
2. CUT MATERIAL IS RE-USED AS FILL MATERIAL OR WASTED ON SITE.
3. BMP SYMBOLS USED ON DRAWING ARE CONCEPTUAL AND ARE INTENDED TO INDICATE A SPECIFIC TYPE OF BMP. THEY DO NOT REPRESENT THE ACTUAL SIZE AND OR SHAPE OF THE BMP. REFER TO APPENDIX F OF THE USWMP FOR GUIDANCE ON BMP SPACING.

4. CONTOURS REPRESENT PRE-CONSTRUCTION ELEVATIONS.

5. WELL PAD WILL BE CONSTRUCTED TO BE RELATIVELY FLAT WITH SIDE SLOPES. SIDE SLOPES ARE INDICATED BY FILL AND CUT ELEVATIONS.

6. THERE ARE NO KNOWN WETLANDS, SPRINGS OR OTHER SURFACE WATERS IN CLOSE PROXIMITY TO THIS SITE.

7. REQUIREMENTS FOR TEMPORARY STABILIZATION WILL BE DETERMINED IN THE FIELD, IT WILL BE BASED PRIMARILY ON ROCK CONTENT AND SLOPE.

8. PERIMETER BMPs WILL BE PLACED AS CLOSE TO THE TOE OF THE SLOPE AS FEASIBLE WHILE MAINTAINING ADEQUATE ROOM FOR OPERATION OF CONSTRUCTION EQUIPMENT BETWEEN THE TOE OF SLOPE AND THE LIMITS OF DISTURBANCE.



Plot Date/Time: 09/16/2009, 11:05:16 AM; Z:\PROJECT FILES\72-99\801-111\801-111.412\CAD-GIS\CAD\TASK 024\FIGURE 3-FRU 197-31C SHEET 2 (09-11-09) REV 2.0WG-FIGURE 3



WRIGHT WATER ENGINEERS, INC.  
2490 W. 26TH AVE. SUITE 100A  
DENVER, CO 80211  
(303)480-1700 FAX(303)480-1020

EXXON MOBIL CORPORATION  
SECTION 31, TOWNSHIP 1S, RANGE 97W  
**FRU 197-31C**  
PROPOSED BMPs ISWMP DRAWING

REVISION:

1	KAL	08/24/09
2	KAL	09/16/09

REVISED  
FIGURE

3

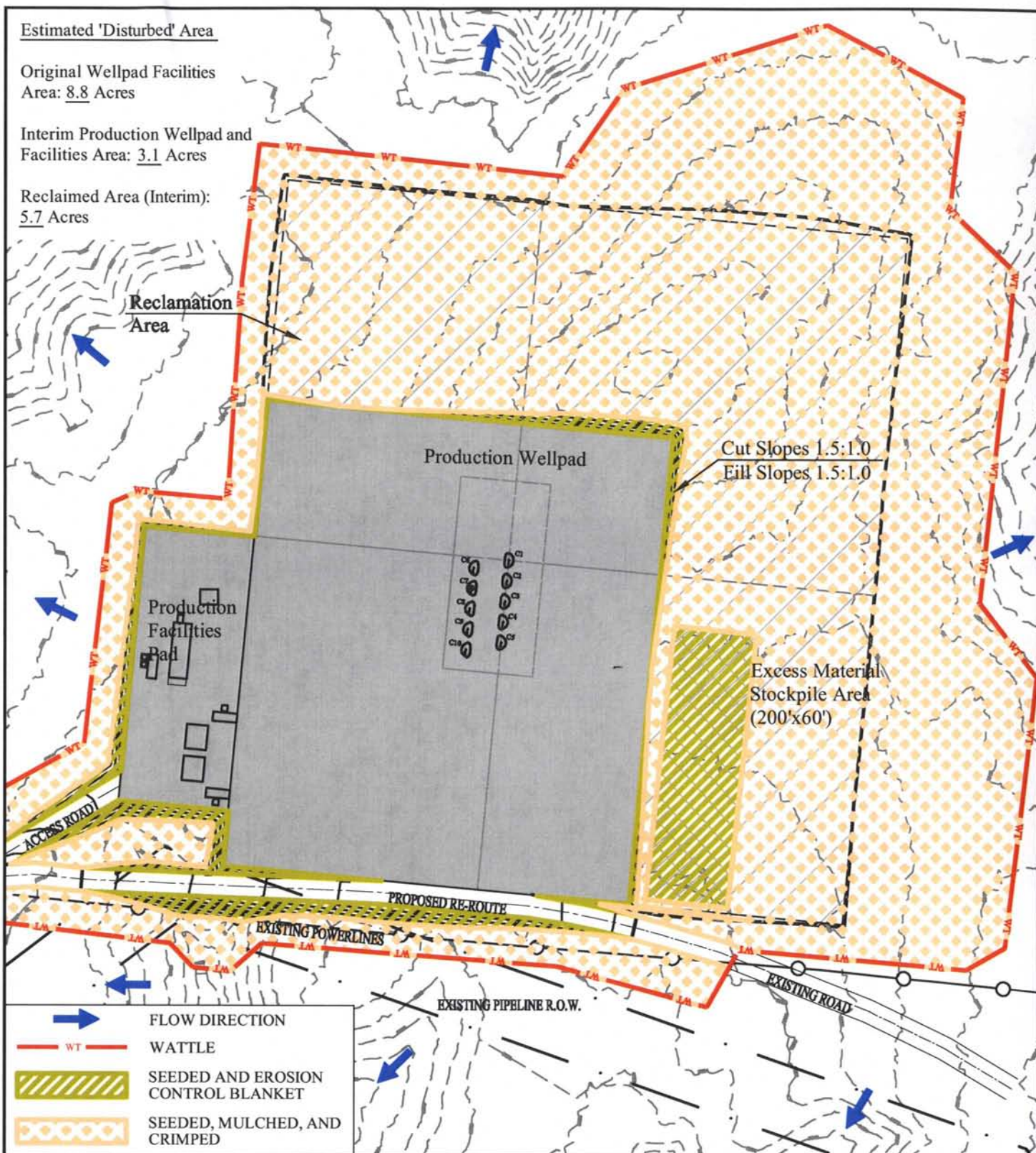


Estimated 'Disturbed' Area

Original Wellpad Facilities  
Area: 8.8 Acres

Interim Production Wellpad and  
Facilities Area: 3.1 Acres

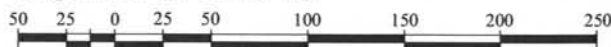
Reclaimed Area (Interim):  
5.7 Acres



**NOTES:**

1. Reference Tri State Land Surveying Inc. grading plan dated 09-11-09.
2. Reclaimed area to be regraded to achieve approximate original contours. Original contours are shown for reference.
3. Perimeter BMPs (e.g. wattles) will remain in place as needed until final stabilization is achieved.
4. If field conditions dictate Hydromulch will be used. If Hydromulch used, seed will be applied first (at double the seed rate) then the Hydromulch will be applied.

SOURCE: EXXONMOBIL  
FRU 197-31C - Interim Reclamation Plan  
Date: Jan. 05, 2009  
Dwg No. WP197-31C-09-003



Scale= 1" = 100'

Plot Date/Time: 09/17/2009, 07:56:55 AM; Z:\PROJECT FILES\72-99\801-111\801-111.412\CAD-GS\CAD\TASK 024\FIGURE 5-FRU 197-31C\_WP197-31C-09-003 REV 2.DWG-FIGURE 5



WRIGHT WATER ENGINEERS, INC.  
2490 W. 26TH AVE. SUITE 100A  
DENVER, CO 80211  
(303)480-1700 FAX(303)480-1020

EXXON MOBIL CORPORATION  
SECTION 31, TOWNSHIP 1S, RANGE 97W  
**FRU 197-31C**  
**INTERIM RECLAMATION PLAN**

**REVISION:**

1	KAL	08/24/09
2	KAL	09/16/09

**REVISED  
FIGURE**

**5**