



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



FOR OFFICE USE ONLY  
**RECEIVED**  
DEC 13 2011  
**COGCC**

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

**EARTHEN PIT REPORT/PERMIT**

This form is to be used for both reporting and permitting pits. Rule 903 describes when a Permit with prior approval, or a Report within 30 days, is required for pits. Submit required attachments and forms.

Complete the  
Attachment Checklist

**FORM SUBMITTED FOR:**

Pit Report       Pit Permit

	Oper	OGCC
Detailed Site Plan	✓	
Topo Map w/ Pit Location	✓	
Water Analysis (Form 25)		
Source Wells (Form 26)		
Pit Design/Plan & Cross Sect	✓	
Design Calculations		
Sensitive Area Determ.		
Mud Program	✓	
Form 2A	✓	

OGCC Operator Number: 46685  
Name of Operator: Kinder Morgan CO2 Co.  
Address: 17801 Hwy. 491  
City: Cortez State: CO Zip: 81321

Contact Name and Telephone:  
Bob Clayton  
No: 970-882-5507 / 970-799-1103  
Fax: 970-882-5521

API Number (of associated well): Unassigned / new well OGCC Facility ID (of other associated facility): \_\_\_\_\_  
Pit Location (QtrQtr, Sec, Twp, Rng, Meridian): NW4-SE4 Sec. 15. T40N. R18W NMPM  
Latitude: 37.73262 N Longitude: -108.83426 W County: Dolores  
Pit Use:  Production  Drilling (Attach mud program)  Special Purpose (Describe Use): High Chloride (2 seperate pits-fresh/salt)  
Pit Type:  Lined  Unlined Surface Discharge Permit:  Yes  No  
Offsite disposal of pit contents:  Injection  Commercial Pit/Facility Name: \_\_\_\_\_ Pit/Facility No: \_\_\_\_\_  
**Attach Form 26 to identify Source Wells and Form 25 to provide Produced Water Analysis results.**

**Existing Site Conditions**

Is the location in a "Sensitive Area?"  Yes  No Attach data used for determination.  
Distance (in feet) to nearest surface water: 680 ground water: 250 water wells: 36,330  
**LAND USE (or attach copy of Form 2A if previously submitted for associated well) Select one which best describes land use:**  
Crop Land:  Irrigated  Dry Land  Improved Pasture  Hay Meadow  CRP  
Non-Crop Land:  Rangeland  Timber  Recreational  Other (describe): \_\_\_\_\_  
Subdivided:  Industrial  Commercial  Residential  
**SOILS (or attach copy of Form 2A if previously submitted for associated well)**  
Soil map units from USNRCS survey: Sheet No: \_\_\_\_\_ Soil Complex/Series No: \_\_\_\_\_  
Soils Series Name: \_\_\_\_\_ Horizon thickness (in inches): A: \_\_\_\_\_ ; B: \_\_\_\_\_ ; C: \_\_\_\_\_  
Soils Series Name: \_\_\_\_\_ Horizon thickness (in inches): A: \_\_\_\_\_ ; B: \_\_\_\_\_ ; C: \_\_\_\_\_  
**Attach detailed site plan and topo map with pit location.**

**Pit Design and Construction**

Size of pit (feet): Length: 350' Width: 360' Depth: 10'  
Calculated pit volume (bbbs): n/a Daily inflow rate (bbbs/day): n/a  
Daily disposal rates (attach calculations): Evaporation: n/a bbbs/day Percolation: n/a bbbs/day  
Type of liner material: HD woven Thickness: 30 mil  
**Attach description of proposed design and construction (include sketches and calculations).**  
Method of treatment of produced water prior to discharge into pit (separator, heater treater, other): n/a  
Is pit fenced?  Yes  No Is pit netted?  Yes  No

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct, and complete.  
Print Name: Bob Clayton Signed: Bob Clayton  
Title: Operations Superintendent Date: 12/7/2011

OGCC Approved: David Kelly Title: Location Assessment Specialist Date: 12.30.11

CONDITIONS OF APPROVAL, IF ANY: See Attached

**FACILITY NUMBER: 427014**

VAF

**Kinder Morgan CO2 CO LP, Doe Canyon 11 Pad, NESW Sec 15 T40N R18W,  
Dolores County, Form 15 Pit Permit Conditions of Approval, Associated Form  
2A#400226971; Pit Facility ID#427014.**

**COA 90** - Notify COGCC Oil and Gas Location Assessment (OGLA) Specialist for Western Colorado (Dave Kubeczko; email [dave.kubeczko@state.co.us](mailto:dave.kubeczko@state.co.us)) and the COGCC Field Inspection Supervisor for Southern Colorado (Mike Leonard; email [mike.leonard@state.co.us](mailto:mike.leonard@state.co.us)) 48 hours prior to start of construction of the pit.

**COA 5** - Operator must implement best management practices to contain any unintentional release of fluids, including any fluids conveyed via buried or temporary surface pipelines.

**COA 39** - No portion of any pit that will be used to hold liquids shall be constructed on fill material, unless the pit and fill slope are designed and certified by a professional engineer, subject to review and approval by the director prior to construction of the pit. The construction and lining of the pit shall be supervised by a professional engineer or their agent. The entire base of the pit must be in cut.

**COA 49** - The pit must be fenced and netted. The operator must maintain the fencing and netting until the pit is closed.

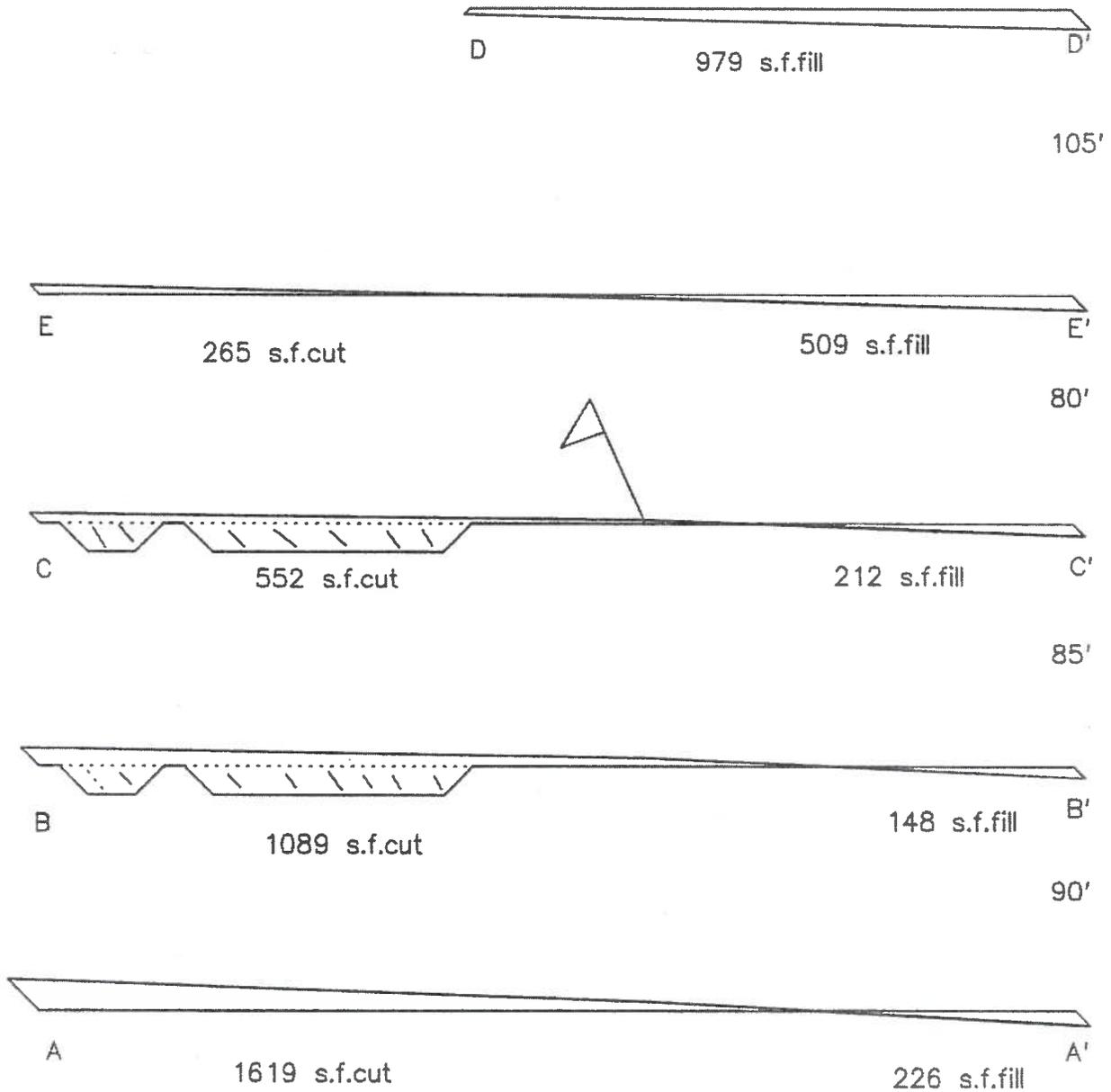
**COA 27** - Submit additional disposal facilities (wells, pits, etc.), if necessary (i.e., if original disposal option changes), for pit liquid contents to COGCC via a Form 4 Sundry prior to disposal. In addition, operator will collect a pit water sample and, at a minimum, analyze for the following parameters: pH; alkalinity; specific conductance; major cations/anions (chloride, fluoride, sulfate, sodium); total dissolved solids (TDS); BTEX/DRO; TPH; PAH's (including benzo[a]pyrene); and metals (arsenic, barium, calcium, chromium, iron, magnesium, selenium). At the time of closure/disposal of pit water, COGCC may require additional analytes, as appropriate.

**COA 28** - Pit(s) shall be closed in accordance with Rule 905. Closure of Pits, and Buried or Partially Buried Produced Water Vessels.

**COA 91** - At the time of pit closure, operator must submit disposal information for solids, if necessary, via a Form 4 Sundry Notice to the COGCC Location Specialist for Western Colorado (Dave Kubeczko; email [dave.kubeczko@state.co.us](mailto:dave.kubeczko@state.co.us)). The disposal method will need to be approved prior to operator starting pit closure.



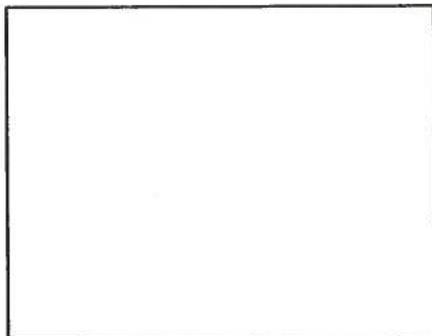
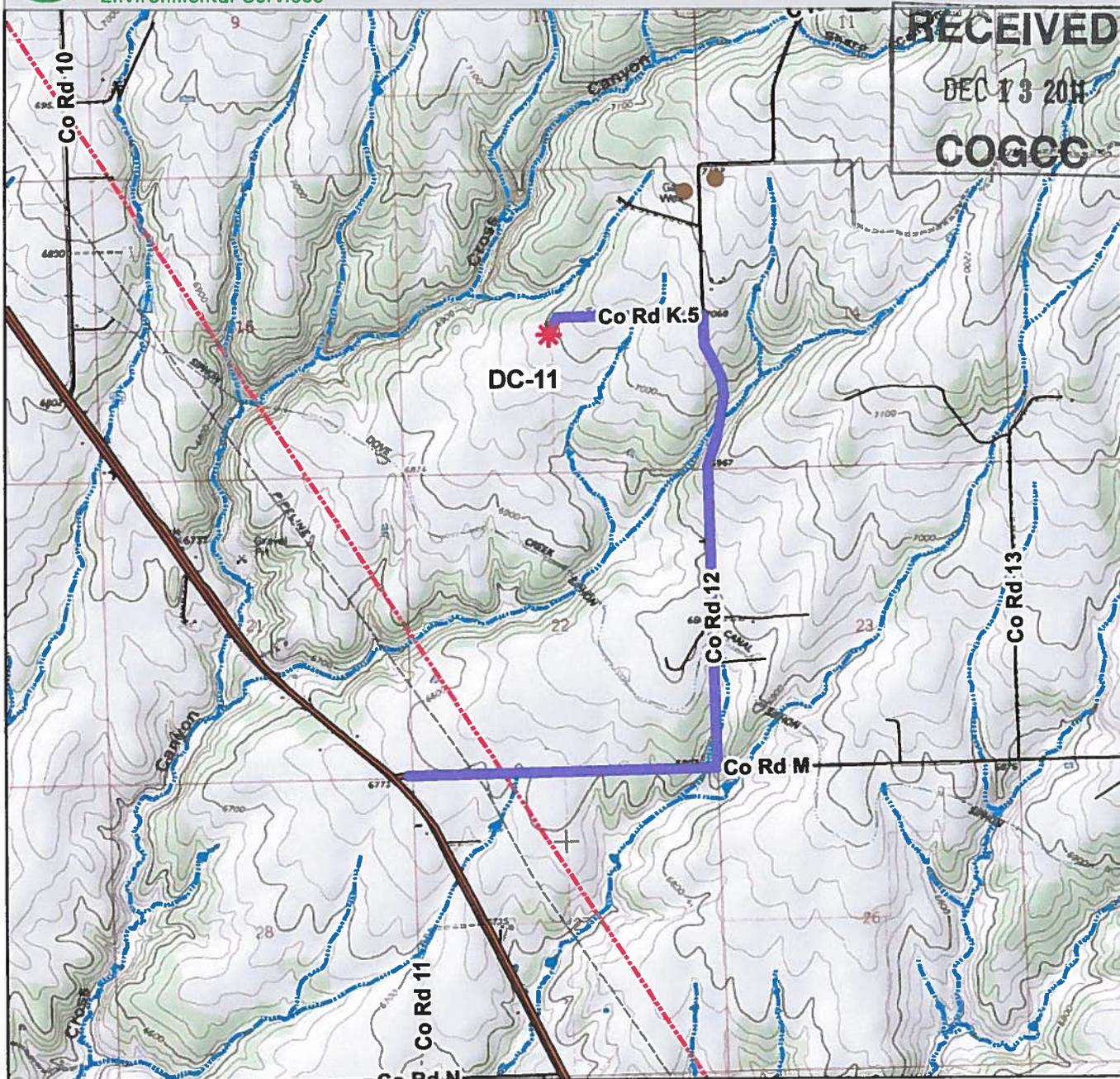
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approximate dirt quantities:  
(above pad and reserve pit)

8306 cys cut  
5596 cys fill  
2710 cys excess

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**Legend**

- DC-11 Well Pad
- Proposed Access Route
- Existing Well Pads
- Minor Road
- Highway/Major Road

0 0.15 0.3 0.6  
Miles

N

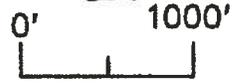
1:32,000

**DC-11 Well Pad**  
Access Map

Date: 12/7/2011

Name: DC-11 Access Map.mxd

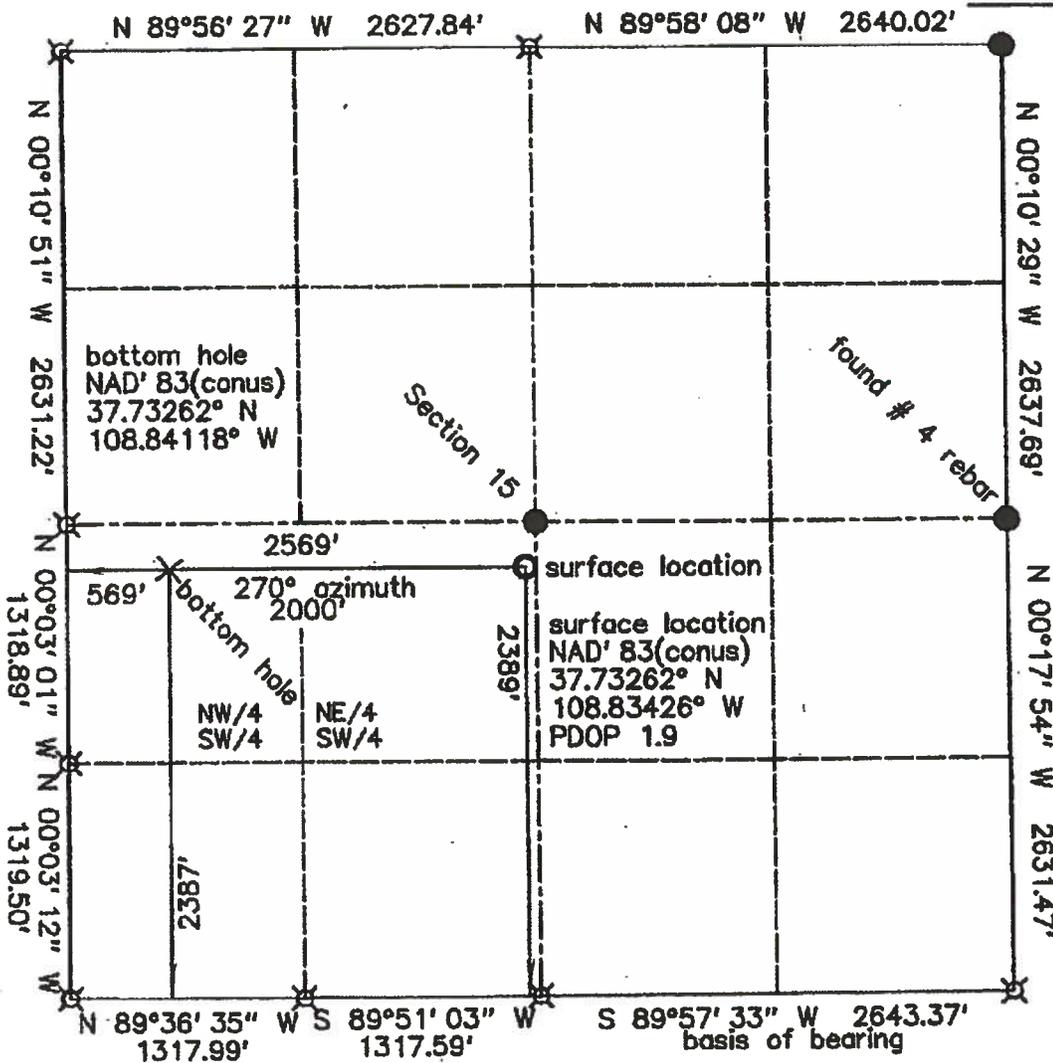
WELL LOCATION PLAT



Scale: 1" = 1000'

Basis of bearing is assumed from GPS True North, as shown.

- ⊠ standard GLO/BLM monument
- set standard monument
- \* from GLO/BLM
- \*\* calculated



Notes:

- 1) Distances/dimensions are perpendicular to section/aliquot lines.
- 2) Surface use is Fee, CRP dry grassland.
- 3) GPS was corrected by OPUS, instrument operator was R.J. Caffey, CO LS 36562.
- 4) There are no improvements within 400 feet of pad, except fences on property lines, 60 feet east and 250 north of well bore location. There is a collapsed shed within 172. feet of the pad.

KINDER MORGAN CO2 COMPANY, LP  
 DC - 11  
 2389' FSL & 2569' FWL - surface location  
 Section 15, T.40 N., R.18 W., NMPM  
 Dolores County, CO  
 6999' grd. el. NAVD '88 (from OPUS)  
 2387' FSL & 569' FWL - bottom hole  
 Section 15, T.40 N., R.18 W., NMPM

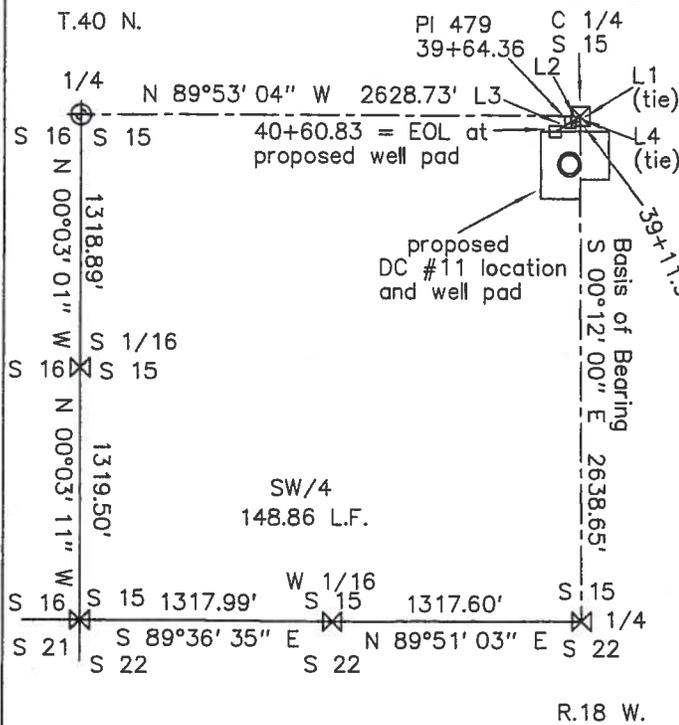


KNOW ALL MEN BY THESE PRESENTS that I, GERALD G. HUDDLESTON, do hereby certify that this plat was prepared from field notes of an actual survey made by me or under my supervision and that the same is true and accurate to the best of my knowledge and belief.

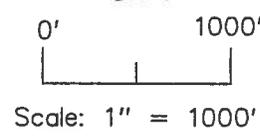
date of survey : 09/28/' 11  
 date of plat : rev. 10/26/' 11

**NOTICE:**

According to Colorado law you must commence any legal action based upon any defect in this survey within three years after you first discover such defect. In no event may any action based upon any defect in this survey be commenced more than ten years from the date of certification shown hereon.



Basis of Bearing:  
 S 00°12'00" E between the C 1/4 Corner of Section 15 and the S 1/4 Corner of Section 15, T.40 N., R.18 W.  
 From GPS True North.



- ⊕ fnd. stnd. GLO brass cap
- ⊗ fnd. stnd. BLM aluminum cap
- ⊗ fnd. #4 rebar - accepted/remonumented with #6 rebar/3" al. cap
- ⊗ set #6 rebar/3" al. cap

LINE TABLE

L1	N 00°12'00" W	30.00' (tie)
L2	N 89°53'04" W	52.39'
L3	S 58°21'53" W	96.47'
L4	N 59°12'44" E	157.10' (tie)

**LEGAL DESCRIPTION - Right of way and Easement**

A 60 foot wide right of way and easement lying 30 feet each side of the following centerline description contained in the SW/4 of Section 15, T.40 N., R.18 W., NMPM, Dolores County, Colorado:

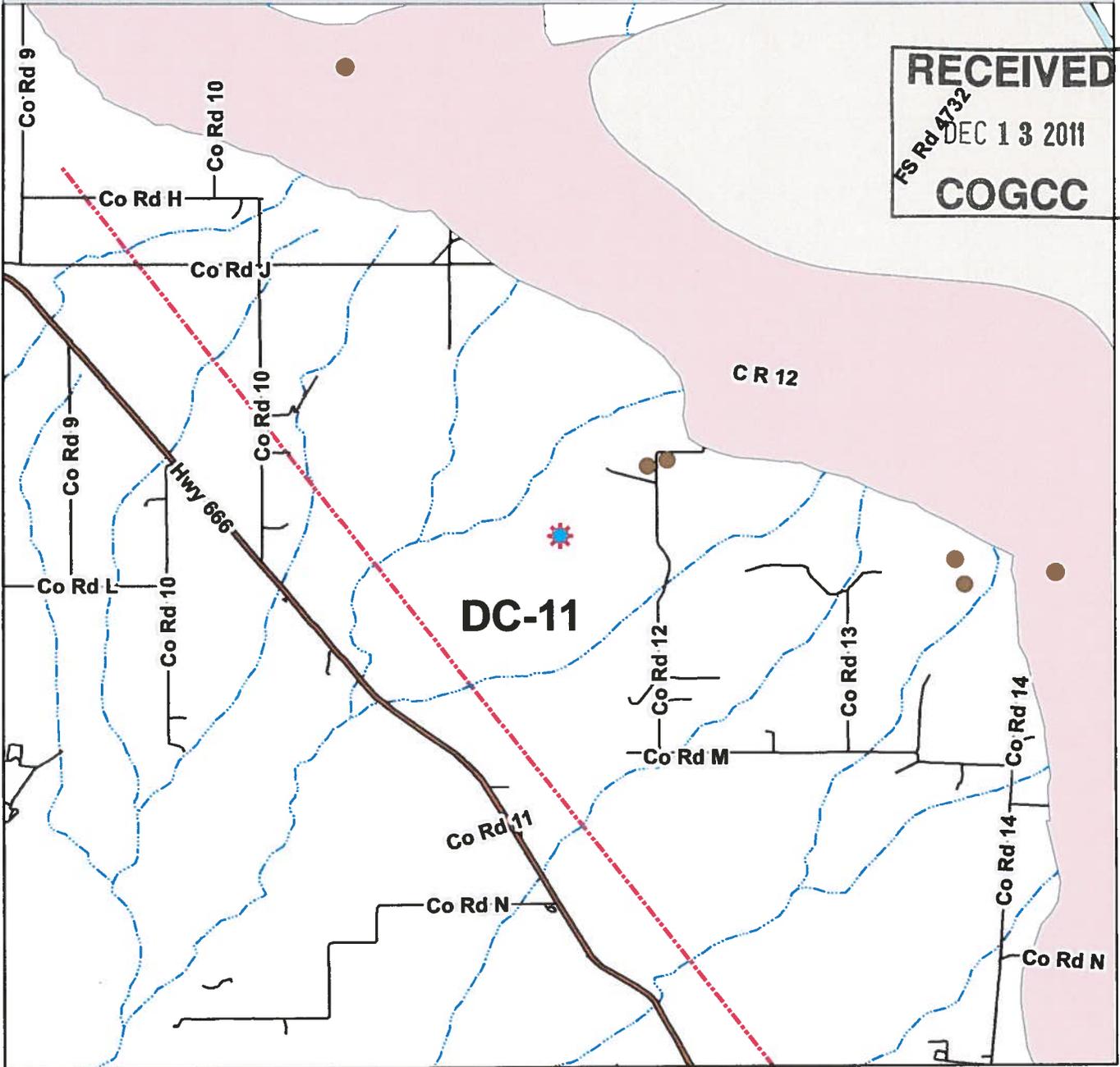
Beginning at a point on the East line of said SW/4, from which point the C 1/4 Corner of said Section 15 bears N 00°12'00" W a distance of 30.00 feet; thence N 89°53'04" W a distance of 52.39 feet; thence S 58°21'53" W a distance of 96.47 feet to a point on the proposed DC #11 well pad and the end of said right of way and easement, from which point the C 1/4 Corner of said Section 15 bears N 59°12'44" E a distance of 157.10 feet.  
 SUBJECT TO all easements of record or prescriptive.



KINDER-MORGAN CO2 COMPANY, LP	
Proposed DC #11 right of way and easement	
Larimore SW/4 of Section 15, T.40 N., R.18 W., NMPM, Dolores County, Colorado	
1 October 2011	
HUDDLESTON LAND SURVEYING P.O. Box KK - Cortez, CO 81321 - (970) 565-3330	

KNOW ALL MEN BY THESE PRESENTS that I, Gerald G. Huddleston, do hereby certify that this plat was prepared from field notes of an actual survey made by me or under my supervision and that the same is true and accurate to the best of my knowledge and belief.

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<p>Coordinate System: GCS North American 1983</p>	<p><b>Legend</b></p> <ul style="list-style-type: none"> <li> DC-11 Well Pad</li> <li> Existing Well Pads</li> <li> GunnSageGrouse_LekSites_101708</li> <li> Peregrine_ActiveNestSites_101708</li> <li> BaldEagle_WinterNightRoostSites_101708</li> <li> Elk_ProductionArea_101708</li> <li> Elk_WinterConcentrationArea_101708</li> <li> GunnSageGrouse_ProductionAreas_101708</li> <li> MuleDeer_CriticalWinterRange_101708</li> </ul> <p>0 0.325 0.65 1.3 Miles</p> <p> 1:64,000</p>	<p><b>DC-11 Well Pad</b> <b>WILDLIFE HABITAT MAP</b></p> <p>Date: 11/30/2011 Name: DC-13 Wildlife Map.mxd</p>
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**SECTION 5 – Mud Program**

The “standard” mud program and procedures used during the previous drilling programs at McElmo Dome will be employed during the drilling operation of the well.

**Surface - 2438’ (9-5/8” Casing Point):**

Hole Size: 12-1/4”

Mud Type: Fresh water

Spud the 12-1/4” surface hole with fresh water and circulate the fresh water section of the reserve pit. Maintain the fluid as clean as possible to help prevent lost circulation. Use paper to control any seepage and pump LCM sweeps if lost circulation becomes a problem. Pump viscous sweeps if tight connections are encountered and prior to running the 9-5/8” casing.

**2438’ - 5550’ (100’ above the Desert Creek):**

Hole Size: 8-3/4”

Mud Type: Fresh water

Problems: Seepage, hole cleaning

Drill out of the 9-5/8” casing with clean fresh water. Circulate the reserve pit to keep solids to a minimum. Sweep the hole as required for hole cleaning and / or lost circulation problems. Use paper to control any seepage problems.

**5550’ – 8221’ (25’ into the Leadville / 7” Casing Point):**

Hole Size: 8-3/4”

Mud Type: Salt saturated brine

pH: 11+, as required to control H2S

Problems: H2S, killer Shale gas influx, hole cleaning

Displace the fresh water system with salt saturated brine 100’ above the Desert Creek formation. Circulate through the salt water section of the reserve pit to maintain a clean fluid and to assist in breaking out any entrained gas. Pre-treat mud for H2S prior to drilling the P4 Shale.

Follow the attached guidelines for drilling the Killer Shale, titled “Paradox Salt Drilling Procedure”, which is located at the back of this prognosis. The recommendations have proven to be very successful in recent drilling programs.

**8221’ – 8600’ (Pilot Hole) and 8226’ – 10226’ (Lateral ~2000’):**

Hole Size: 6” & 4-3/4”

Mud Type: Fresh water / Baradril-N Sweeps

pH: 9-9.5 with caustic soda

Problems: LC, Hole cleaning, Lubricity

Build 400-500 bbls Freshwater/Bardril-N for sweeps. Expect complete losses while drilling the lateral. Drill blind with freshwater at normal pump rates. Circulate 20-30 Bardril-N sweeps each stand drilled to keep cuttings moving up the hole. Add Enviro-Torque with each sweep for lubricity. Circulate 10 bbls 15% BDF-408 while drilling to prevent cuttings bed build-up.

If circulation is lost and unable to be regained, nitrogen will be added to the mud system to help lift the fluid for circulation and cuttings movement. A specific description of this process is discussed in Section 8 of this prognosis

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Hi Dave, Say a few comments on this pit permit;

- The pit is entire cut with any liquid level well below the cut.
- The liner is pulled in one piece w/o any field seams. All seams are factory.
- You will notice the pit portion of the location is on a neighbor's property. This was done by agreement from both parties to reduce the final impact on the farm ground portion where the final head well will set by keeping it closer to the fence line rather than far out into the field. You will see the same scenario on the next permit I will be submitting.

We are hoping to drill this well in mid Jan. 2012 and are expecting COGCC 2 and 2A approval around the 29<sup>th</sup> of Dec. Leaving 2 weeks to construct this location. I guess what I am saying is that time is of an essence.

Thanks,

Bob Clayton

Kinder Morgan CO2 / Cortez

FORM  
2A

Rev  
04/01

State of Colorado  
Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80205 Phone: (303) 894-2100 Fax: (303) 894-2109



Document Number:

400226971

Date Received:

12/08/2011

Oil and Gas Location Assessment

New Location  Amend Existing Location Location#: \_\_\_\_\_

Submit original plus one copy. This form is to be submitted to the COGCC prior to any ground disturbance activity associated with oil and gas development operations. This Assessment may be approved as a standalone application or submitted as an informational report accompanying an Application for Permit-To-Drill, Form 2. Approval of this Assessment will allow for the construction of the below specified location; however, it does not supersede any land use rules applied by the local land use authority. This form may serve as notice to land owners and other interested parties, please see the COGCC web site at <http://colorado.gov/cogcc/> for all accompanying information pertinent to this Oil and Gas Location Assessment.

Location ID:

**427297**

Expiration Date:

**01/14/2015**

This location assessment is included as part of a permit application.

1. CONSULTATION

- This location is included in a Comprehensive Drilling Plan. CDP # \_\_\_\_\_
- This location is in a sensitive wildlife habitat area.
- This location is in a wildlife restricted surface occupancy area.
- This location includes a Rule 306.d.(1)A.ii. variance request.

2. Operator

Operator Number: 46685  
 Name: KINDER MORGAN CO2 CO LP  
 Address: 17801 HWY 491  
 City: CORTEZ State: CO Zip: 81321

3. Contact Information

Name: Carolyn Dunmire  
 Phone: (970) 564-9100  
 Fax: (970) 882-5527  
 email: dunmire@ecosphere-services.com

4. Location Identification:

Name: Doe Canyon Number: 11  
 County: DOLORIS  
 Quarter: NESW Section: 15 Township: 40N Range: 18W Meridian: N Ground Elevation: 6999

Define a single point as a location reference for the facility location. This point should be used as the point of measurement in the drawings to be submitted with this application. When the location is to be used as a well site then the point shall be a well location.

Footage at surface: 2389 feet FSL, from North or South section line, and 2569 feet FWL, from East or West section line.  
 Latitude: 37.732620 Longitude: -108.834260 PDOP Reading: 1.9 Date of Measurement: 09/28/2011  
 Instrument Operator's Name: Gerald G. Huddleston

5. Facilities (Indicate the number of each type of oil and gas facility planned on location):

Special Purpose Pits: <input type="checkbox"/>	Drilling Pits: <input type="checkbox"/> <b>2</b>	Wells: <input type="checkbox"/> <b>1</b>	Production Pits: <input type="checkbox"/>	Dehydrator Units: <input type="checkbox"/>
Condensate Tanks: <input type="checkbox"/>	Water Tanks: <input type="checkbox"/> <b>2</b>	Separators: <input type="checkbox"/>	Electric Motors: <input type="checkbox"/>	Multi-Well Pits: <input type="checkbox"/>
Gas or Diesel Motors: <input type="checkbox"/>	Cavity Pumps: <input type="checkbox"/>	LACT Unit: <input type="checkbox"/>	Pump Jacks: <input type="checkbox"/>	Pigging Station: <input type="checkbox"/>
Electric Generators: <input type="checkbox"/>	Gas Pipeline: <input type="checkbox"/>	Oil Pipeline: <input type="checkbox"/>	Water Pipeline: <input type="checkbox"/>	Flare: <input type="checkbox"/>
Gas Compressors: <input type="checkbox"/>	VOC Combustor: <input type="checkbox"/>	Oil Tanks: <input type="checkbox"/>	Fuel Tanks: <input type="checkbox"/> <b>1</b>	

Other: CO2 pipeline

6. Construction:

Date planned to commence construction: 01/02/2012 Size of disturbed area during construction in acres: 2.53  
Estimated date that interim reclamation will begin: 03/02/2012 Size of location after interim reclamation in acres: 1.53  
Estimated post-construction ground elevation: 6999 Will a closed loop system be used for drilling fluids: Yes  No   
Will salt sections be encountered during drilling: Yes  No  Is H2S anticipated? Yes  No   
Will salt (>15,000 ppm TDS Cl) or oil based muds be used: Yes  No   
Mud disposal: Offsite  Onsite  Method: Land Farming  Land Spreading  Disposal Facility   
Other: \_\_\_\_\_

### 7. Surface Owner:

Name: \_\_\_\_\_ Phone: \_\_\_\_\_  
Address: \_\_\_\_\_ Fax: \_\_\_\_\_  
Address: \_\_\_\_\_ Email: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ Date of Rule 306 surface owner consultation: 12/09/2011  
Surface Owner:  Fee  State  Federal  Indian  
Mineral Owner:  Fee  State  Federal  Indian  
The surface owner is:  the mineral owner  committed to an oil and gas lease  
 is the executer of the oil and gas lease  the applicant  
The right to construct the location is granted by:  oil and gas lease  Surface Use Agreement  Right of Way  
 applicant is owner  
Surface damage assurance if no agreement is in place:  \$2000  \$5000  Blanket Surety ID 20080051

### 8. Reclamation Financial Assurance:

Well Surety ID: 20110027  Gas Facility Surety ID: \_\_\_\_\_  Waste Mgnt. Surety ID: \_\_\_\_\_

### 9. Cultural:

Is the location in a high density area (Rule 603.b.): Yes  No   
Distance, in feet, to nearest building: 2792, public road: 900, above ground utilit: 5280  
, railroad: 5280, property line: 53

### 10. Current Land Use (Check all that apply):

Crop Land:  Irrigated  Dry land  Improved Pasture  Hay Meadow  CRP  
Non-Crop Land:  Rangeland  Timber  Recreational  Other (describe): \_\_\_\_\_  
Subdivided:  Industrial  Commercial  Residential

### 11. Future Land Use (Check all that apply):

Crop Land:  Irrigated  Dry land  Improved Pasture  Hay Meadow  CRP  
Non-Crop Land:  Rangeland  Timber  Recreational  Other (describe): \_\_\_\_\_  
Subdivided:  Industrial  Commercial  Residential

### 12. Soils:

List all soil map units that occur within the proposed location. Attach the National Resource Conservation Service (NRCS) report showing the "Map Unit Description" report listing the soil typical vertical profile. This data is to used when segregating topsoil.

The required information can be obtained from the NRCS web site at <http://soildatamart.nrcs.usda.gov/> or from the COGCC web site GIS Online map page found at <http://colorado.gov/cogcc>. Instructions are provided within the COGCC web site help section.

NRCS Map Unit Name: 143. Wetherill Loam, 1 to 3 percent slopes

NRCS Map Unit Name: 144. Wetherill Loam, 3 to 6 percent slopes

NRCS Map Unit Name: \_\_\_\_\_

### 13. Plant Community:

Complete this section only if any portion of the disturbed area of the location's current land use is on non-crop land.

Are noxious weeds present: Yes  No

Plant species from:  NRCS or,  field observation Date of observation: 11/17/2011

List individual species: Western Wheatgrass, Crested Wheatgrass, Hoary Tansyaster, Rabbitbrush

Check all plant communities that exist in the disturbed area.

- Disturbed Grassland (Cactus, Yucca, Cheatgrass, Rye)
- Native Grassland (Bluestem, Grama, Wheatgrass, Buffalograss, Fescue, Oatgrass, Brome)
- Shrub Land (Mahogany, Oak, Sage, Serviceberry, Chokecherry)
- Plains Riparian (Cottonwood, Willow, Aspen, Maple, Poplar, Russian Olive, Tamarisk)
- Mountain Riparian (Cottonwood, Willow, Blue Spruce)
- Forest Land (Spruce, Fir, Ponderosa Pine, Lodgepole Pine, Juniper, Pinyon, Aspen)
- Wetlands Aquatic (Bullrush, Sedge, Cattail, Arrowhead)
- Alpine (above timberline)
- Other (describe): CRP land

### 14. Water Resources:

Rule 901.e. may require a sensitive area determination be performed. If this determination is performed the data is to be submitted with the Form 2A.

Is this a sensitive area:  No  Yes Was a Rule 901.e. Sensitive Areas Determination performed:  No  Yes

Distance (in feet) to nearest surface water: 680, water well: 36330, depth to ground water: 250

Is the location in a riparian area:  No  Yes Was an Army Corps of Engineers Section 404 permit filed  No  Yes

Is the location within a Rule 317B Surface Water Suppl Area buffer zone:

No  0-300 ft. zone  301-500 ft. zone  501-2640 ft. zone

If the location is within a Rule 317B Surface Water Supply Area buffer have all public water supply systems within 15 miles been notified:  No  Yes

### 15. Comments:

A 10 pound brine in the salt selection will be used, no oil based mud. Fresh water will be used in the hole until salts then back to fresh water after we case off the salts. The mud will be disposed onsite for the surface cuttings and offsite at a land farm for the salt cuttings; separate pits will be used for each; form 15 forthcoming. This well affects multiple land owners to reduce impacts on the farmland. Surface Use Agreement is forth coming with sundry.

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

Signed: \_\_\_\_\_ Date: 12/08/2011 Email: dunmire@ecosphere-services.com

Print Name: Carolyn Dunmire Title: Project Manager

Based on the information provided herein, this Application for Permit-to-Drill complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved: David S. Nashin Director of COGCC Date: 1/15/2012

**CONDITIONS OF  
APPROVAL, IF ANY:**

**All representations, stipulations and conditions of approval stated in this Form 2A for this location shall constitute representations, stipulations and conditions of approval for any and all subsequent operations on the location unless this Form 2A is modified by Sundry Notice, Form 4 or an Amended Form 2A.**

**SITE SPECIFIC COAs:**

Either a lined drilling pit or closed loop system must be implemented.

Production pit/special purpose pit must be lined.

Operator must ensure 110 percent secondary containment for any volume of fluids contained at well site during drilling and completion operations; including, but not limited to, construction of a berm or diversion dike, diversion/collection trenches within and/or outside of berms/dikes, site grading, or other comparable measures (i.e., best management practices (BMPs) associated with stormwater management) sufficiently protective of nearby surface water. Any berm constructed at the well pad location will be stabilized, inspected at regular intervals, and maintained in good condition.

Operator must implement best management practices to contain any unintentional release of fluids, including any fluids conveyed via temporary surface pipelines or buried permanent pipelines.

Flowback and stimulation fluids must be sent to tanks, separators, or other containment/filtering equipment before the fluids can be placed into any pipeline or pit located on the well pad or into tanker trucks for offsite disposal. The flowback and stimulation fluid tanks, separators, or other containment/filtering equipment must be placed on the well pad in an area with additional downgradient perimeter berming. The area where flowback fluids will be stored/reused must be constructed to be sufficiently impervious to contain any spilled or released material.

The moisture content of any drill cuttings in a cuttings pit, trench, or pile shall be as low as practicable to prevent accumulation of liquids greater than de minimis amounts prior to offsite disposal.

No portion of any pit that will be used to hold liquids shall be constructed on fill material, unless the pit and fill slope are designed and certified by a professional engineer, subject to review and approval by the director prior to construction of the pit. The construction and lining of the pit shall be supervised by a professional engineer or their agent. The entire base of the pit must be in cut.

All personnel must be H2S trained and proper air monitoring for H2S must be implemented during drilling, completion, and production operations. Emergency response plan for H2S must be onsite at all times.

**Attachment Check List**

Att Doc Num	Name
2034105	CORRESPONDENCE
400226971	FORM 2A APPROVED
400227333	NRCS MAP UNIT DESC
400227334	NRCS MAP UNIT DESC
400227434	LOCATION PICTURES
400227809	HYDROLOGY MAP
400229902	REFERENCE AREA PICTURES
400230012	WELL LOCATION PLAT
400230158	SENSITIVE AREA MAP
400230325	ACCESS ROAD MAP
400230350	PROPOSED BMPs
400230859	LOCATION DRAWING
400230861	REFERENCE AREA MAP
400241082	FORM 2A SUBMITTED

Total Attach: 14 Files

**General Comments**

<b>User Group</b>	<b>Comment</b>	<b>Comment Date</b>
Permit	Final review completed. BY	1/11/2012 7:17:03 AM
Permit	Waiver request and waivers submitted for 603.a. exception.	1/11/2012 7:16:15 AM
OGLA	Initiated/Completed OGLA Form 2A review on 12-12-11 by Dave Kubeczko; requested acknowledgement of fluid containment, spill/release BMPs, moisture content cuttings, H2S training, lined pit/closed loop, no pit in fill, and flowback to tanks COAs from operator on 12-12-11; received acknowledgement of COAs from operator on 12-19-11; no CPW; passed OGLA Form 2A review on 12-30-11 by Dave Kubeczko; fluid containment, spill/release BMPs, moisture content cuttings, H2S training, lined pit/closed loop, no pit in fill, and flowback to tanks COAs.	12/12/2011 2:17:20 PM
Permit	Emailed Paul Belanger and asked him to review the 53' from nearest property line with 603 a. (2) in mind. Also, to review the TOP footage of 2569' FWL which doesn't reflect the 125' of drift from the SHL prior to going horizontal. Also, in response to Paul's email I assured him that the LGD would be notified via the computer, but neither the SWH or RSO were valid at this location so questioned the need to contact the DOW representative.BY	12/12/2011 6:49:07 AM
Permit	Operator input bond number. SJF selected Bond for right to construct per verbal request from operator. This form has passed completeness.	12/9/2011 10:26:14 AM
Permit	Returned to draft. Missing surface and minerals information and SUA attachment.	12/9/2011 6:43:00 AM

Total: 6 comment(s)

**BMP**

<b><u>Type</u></b>	<b><u>Comment</u></b>
Storm Water/Erosion Control	Disturbed portions of the well pad not necessary for operation and maintenance of the well would be re-contoured and roughened to blend into the surrounding terrain. In addition, a land-owner approved seed mix would be applied at the appropriate time using seeding and mulching methods outlined in the Kinder Morgan Programmatic Stormwater Management Plan.
Storm Water/Erosion Control	Fiber wattles will encompass the entire western periphery of the well pad and will continue wrapping approximately 30 feet of the southern periphery

Total: 2 comment(s)