



826 21 ½ Road  
Grand Junction, CO 81505  
T: 970.263.7800  
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October 31, 2005

Mr. Mark Gilfillan  
U.S. Army Corps of Engineers  
402 Rood Avenue, Room 142  
Grand Junction, CO 81501-2563

**Re: Submittal of Form 4345 for EnCana Oil and Gas (USA), Inc. Drainage Crossings**

Dear Mr. Gilfillan,

Cordilleran Compliance Services, Inc. (Cordilleran) on behalf of EnCana Oil and Gas (USA), Inc. (EnCana), is submitting for your review, Application for Department of the Army Permit (ENG Form 4345) for 12 drainage crossings. The crossings access the PC28-7-95, PN21-7-95, PN20-7-95, and PN31-7-95 well pads, east of Parachute, Colorado. Field work was performed on October 28, 2005. Please reference the field work dates and locations in your response letter to aid in our permit tracking efforts.

This permit application is being submitted to request Army Corps of Engineers verification of Nationwide Permit applicability for 12 drainage crossings of un-named tributaries of the Colorado River, Stone Quarry Gulch, and Pete & Bill Creek, east of Parachute, Colorado. Attached with this letter are Form 4345, a drainage crossing summary table, location map, culvert installation typical detail, field data sheets, and photographs.

Please do not hesitate to contact me at the above referenced phone number or at [billmonroe@cordcomp.com](mailto:billmonroe@cordcomp.com) if you have any questions or concerns. Thank you for your attention to this matter.

Sincerely,

***Cordilleran Compliance Services, Inc.***

William Monroe  
Project Geologist

Enclosure

cc: Brenda Linster Herndon, EnCana Oil and Gas (USA), Inc.  
File

**APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT  
(33 CFR 325)****OMB APPROVAL NO. 0710-003**

Public reporting burden for this collection of information is estimated to average 5 hours per response, including the time for reviewing instructions, Searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters Service Directorate of Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302; and to the Office of Management and Budget, Paperwork Reduction Project (0710-003), Washington, DC 20503. Please DO NOT RETURN your form to either of those addresses. Completed applications must be submitted to the District Engineer having jurisdiction over the location of the proposed activity.

**PRIVACY ACT STATEMENT**

Authority: 33 USC 401, Section 10; 1413, Section 404. Principal Purpose: These laws require permits authorizing activities in, or affecting, navigable waters of the United States; the discharge of dredged or fill material into waters of the United States, and the transportation of dredged material for the purpose of dumping it into ocean waters. Routine uses: Information provided on this form will be used in evaluating the application for a permit. Disclosure: Disclosure of requested information is voluntary. If information is not provided, however, the permit application cannot be processed nor can a permit be issued.

One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and instructions) and be submitted to the District Engineer having jurisdiction over the proposed activity. An application that is not completed in full will be returned.

**(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)**

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETED
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**(ITEMS BELOW TO BE FILLED BY APPLICANT)**

5. APPLICANT'S NAME Brenda Linster Herndon, EnCana Oil and Gas (USA)	8. AUTHORIZED AGENT'S NAME & TITLE (an agent is not required) William Monroe, Cordilleran Compliance Services
6. APPLICANT'S ADDRESS 2717 County Road 215 Parachute, CO 81635	9. AGENT'S ADDRESS 826 21 1/2 Road Grand Junction, CO 81505
7. APPLICANT'S PHONE NUMBERS WITH AREA CODE a. Residence 303 888 6978 b. Business 720 876 5485	10. AGENT'S PHONE NUMBERS WITH AREA CODE a. Residence 970 260 8728 b. Business 970 263 7800

11.

**STATEMENT OF AUTHORIZATION**

I hereby authorize William Monroe to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.

\_\_\_\_\_  
APPLICANT'S SIGNATURE\_\_\_\_\_  
DATE**NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY**

12. PROJECT NAME OR TITLE (see instructions) Drainage Crossings (10/28/05)	
13. NAME OF WATERBODY, IF KNOWN (if applicable) Stone Quarry Gulch, Pete & Bill Creek tributaries	14. PROJECT STREET ADDRESS (if applicable) N/A
15. LOCATION OF PROJECT Garfield Co COUNTY STATE	
16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions) see attached information on Excel spreadsheet.	
17. DIRECTIONS TO THE SITE The site is located in the general area east of Parachute, Colorado. See Figure 1.	



**18. NATURE OF ACTIVITY** (Description of project, include all features)

Roads will be constructed to access EnCana natural gas facilities. Culverts will be installed where the access roads cross un-named tributaries of the Colorado River, Stone Quarry Gulch, and Pete & Bill Creek. The crossings will allow water passage at crossing locations detailed in the attached Excel Spreadsheet, Field Sheets, and Maps. Construction materials consist of native fill and gravel surface as described.

**19. PROJECT PURPOSE** (Describe the reason or purpose of the project, see instructions)

Roads were constructed to provide access to EnCana natural gas production wells.

**USE BLOCKS 20-22 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED****20. REASON(S) FOR DISCHARGE**

Culverts will be installed to allow vehicular crossing of the drainage.

**21. TYPE(S) OF MATERIAL BEING DISCHARGED AND THE AMOUNT OF EACH TYPE IN CUBIC YARDS**

The material placed in the drainage is native fill generated by construction cut and fill activities. Native soil is comprised of shale, silt, clay, sand and occasional gravel material. See attached Excel spreadsheet for estimated fill volumes.

**22. SURFACE AREA IN ACRES OF WETLANDS OR OTHER WATERS FILLED** (see instructions)

See attached location maps and photographs. culvert construction (discharge) is performed with heavy equipment such as dozers and backhoes. Sedimentation can be mitigated in the area with straw bales, silt fence, or other sediment control devices as necessary.

**23. IS ANY PORTION OF THE WORK ALREADY COMPLETE?** YES ☐ NO ☒ IF YES, DESCRIBE THE WORK

See attached spreadsheet, field forms, location map, and photographs.

**ADDRESSES OF ADJOINING PROPERTY OWNERS, LESSEES, ETC. WHOSE PROPERTY ADJOINS THE WATERBODY** (If more than can be entered here, please attach a supplemental list)

Land owners are indicated on the attached Excel spreadsheet.

**25. LIST OF OTHER CERTIFICATIONS OR APPROVALS/DENIALS RECEIVED FROM OTHER FEDERAL, STATE, OR LOCAL AGENCIES FOR WORK DESCRIBED IN THIS APPLICATION**

AGENCY	TYPE APPROVAL*	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED
N/A					

\* Would include but is not restricted to zoning, building and flood plain permits.

26. Application is hereby made for a permit or permits to authorize the work described in this application. I certify that the information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

\_\_\_\_\_  
SIGNATURE OF APPLICANT

\_\_\_\_\_  
DATE

\_\_\_\_\_  
SIGNATURE OF AGENT

\_\_\_\_\_  
DATE

The application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.

U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious, or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.

FIELD SURVEY INFORMATION FOR SURVEYS COMPLETED 10/28/05				
Site Number	7S-95W-29-2	7S-95W-29-3	7S-95W-29-4	7S-95W-21-2
Date Surveyed	10/28/2005	10/28/2005	10/28/2005	10/28/2005
Pad or Access Road Number	PC28-7-95	PC28-7-95	PN21-7-95	PN21-7-95
Section	29	29	29	21
Township	7S	7S	7S	7S
Range	95W	95W	95W	95W
Drainage Name	NA	NA	NA	NA
Tributary to	Colorado River	Colorado River	Colorado River	Colorado River
North Coordinates	39°24'47.5"	39°24'53.4"	39°24'56.0"	39°25'0.3"
West Coordinates	108°0'50.8"	108°0'43.6"	108°0'41.0"	108°0'29.8"
Ordinary High Water Mark (feet)	0.50	0.50	0.50	0.50
Drainage Type	Ephemeral	Ephemeral	Ephemeral	Ephemeral
Construction Description	Proposed culvert	Proposed culvert	Proposed culvert	Proposed culvert
Fill Length (feet)	40	80	20	20
Fill Width (feet)	20	20	20	20
Culvert Size (feet in diameter)	2	2, 2	2	2
Up Gradient Fill Height (feet)	10	10	5	6
Down Gradient Fill Height (feet)	12	14	10	10
Average Fill Height (feet)	11	12	7.5	8
Up Gradient Channel Width (feet)	0.5	2	0.5	1
Down Gradient Channel Width (feet)	0.5	2	0.5	1
Average Channel Width (feet)	0.5	2	0.5	1
Up Gradient Drainage Width (feet)	40	80	20	20
Down Gradient Drainage Width (feet)	80	100	30	30
Average Drainage Width (feet)	60	90	25	25
Approximate Cubic Yards Fill in Drainage	326	711	111	119
Approximate Cubic Yards Fill Below Ordinary High Water Mark	0	1	0	0
Landowners	BLM	BLM	BLM	BLM



FIELD SURVEY INFORMATION FOR SURVEYS COMPLETED 10/28/05			
<i>Site Number</i>	7S-95W-28-2	7S-95W-29-5	7S-95W-29-6
<i>Date Surveyed</i>	10/28/2005	10/28/2005	10/28/2005
<i>Pad or Access Road Number</i>	PC28-7-95	PN20-7-95	PN20-7-95
<i>Section</i>	28	29	29
<i>Township</i>	7S	7S	7S
<i>Range</i>	95W	95W	95W
<i>Drainage Name</i>	NA	NA	NA
<i>Tributary to</i>	Stone Quarry Gulch	Colorado River	Colorado River
<i>North Coordinates</i>	39°24'56.1"	39°24'45.7"	39°24'51.9"
<i>West Coordinates</i>	108°0'15.3"	108°1'27.9"	108°1'20.9"
<i>Ordinary High Water Mark (feet)</i>	0.50	0.50	0.50
<i>Drainage Type</i>	Ephemeral	Ephemeral	Ephemeral
<i>Construction Description</i>	Proposed culvert	Proposed culvert	Proposed culvert
<i>Fill Length (feet)</i>	20	30	30
<i>Fill Width (feet)</i>	20	20	20
<i>Culvert Size (feet in diameter)</i>	2	3	2
<i>Up Gradient Fill Height (feet)</i>	10	11	10
<i>Down Gradient Fill Height (feet)</i>	14	15	14
<i>Average Fill Height (feet)</i>	12	13	12
<i>Up Gradient Channel Width (feet)</i>	1	1.5	1
<i>Down Gradient Channel Width (feet)</i>	1	1.5	1
<i>Average Channel Width (feet)</i>	1	1.5	1
<i>Up Gradient Drainage Width (feet)</i>	20	30	30
<i>Down Gradient Drainage Width (feet)</i>	25	30	30
<i>Average Drainage Width (feet)</i>	22.5	30	30
<i>Approximate Cubic Yards Fill in Drainage</i>	178	289	267
<i>Approximate Cubic Yards Fill Below Ordinary High Water Mark</i>	0	1	0
<i>Landowners</i>	Daniel R. & Mark E. Gardner	BLM	BLM

FIELD SURVEY INFORMATION FOR SURVEYS COMPLETED 10/28/05				
Site Number	7S-95W-29-7	7S-95W-29-8	7S-95W-31-2	7S-95W-31-3
Date Surveyed	10/28/2005	10/28/2005	10/28/2005	10/28/2005
Pad or Access Road Number	PN20-7-95	PN20-7-95	PN31-7-95	PN31-7-95
Section	29	29	31	31
Township	7S	7S	7S	7S
Range	95W	95W	95W	95W
Drainage Name	NA	NA	NA	NA
Tributary to	Colorado River	Colorado River	Pete & Bill Creek	Pete & Bill Creek
North Coordinates	39°24'53.1"	39°24'56.4"	39°23'37.3"	39°23'35.9"
West Coordinates	108°1'18.7"	108°1'18.2"	108°2'36.2"	108°2'33.9"
Ordinary High Water Mark (feet)	0.50	0.50	0.50	0.50
Drainage Type	Ephemeral	Ephemeral	Ephemeral	Ephemeral
Construction Description	Proposed culvert	Proposed culvert	Proposed culvert	Proposed culvert
Fill Length (feet)	20	30	25	40
Fill Width (feet)	20	20	20	20
Culvert Size (feet in diameter)	2	2	2	4
Up Gradient Fill Height (feet)	7	12	5	12
Down Gradient Fill Height (feet)	10	14	7	14
Average Fill Height (feet)	8.5	13	6	13
Up Gradient Channel Width (feet)	0.5	0.5	0.5	5
Down Gradient Channel Width (feet)	0.5	0.5	0.5	4
Average Channel Width (feet)	0.5	0.5	0.5	4.5
Up Gradient Drainage Width (feet)	20	30	20	50
Down Gradient Drainage Width (feet)	20	30	25	40
Average Drainage Width (feet)	20	30	22.5	45
Approximate Cubic Yards Fill in Drainage	126	289	111	385
Approximate Cubic Yards Fill Below Ordinary High Water Mark	0	0	0	2
Landowners	BLM	BLM	BLM	BLM

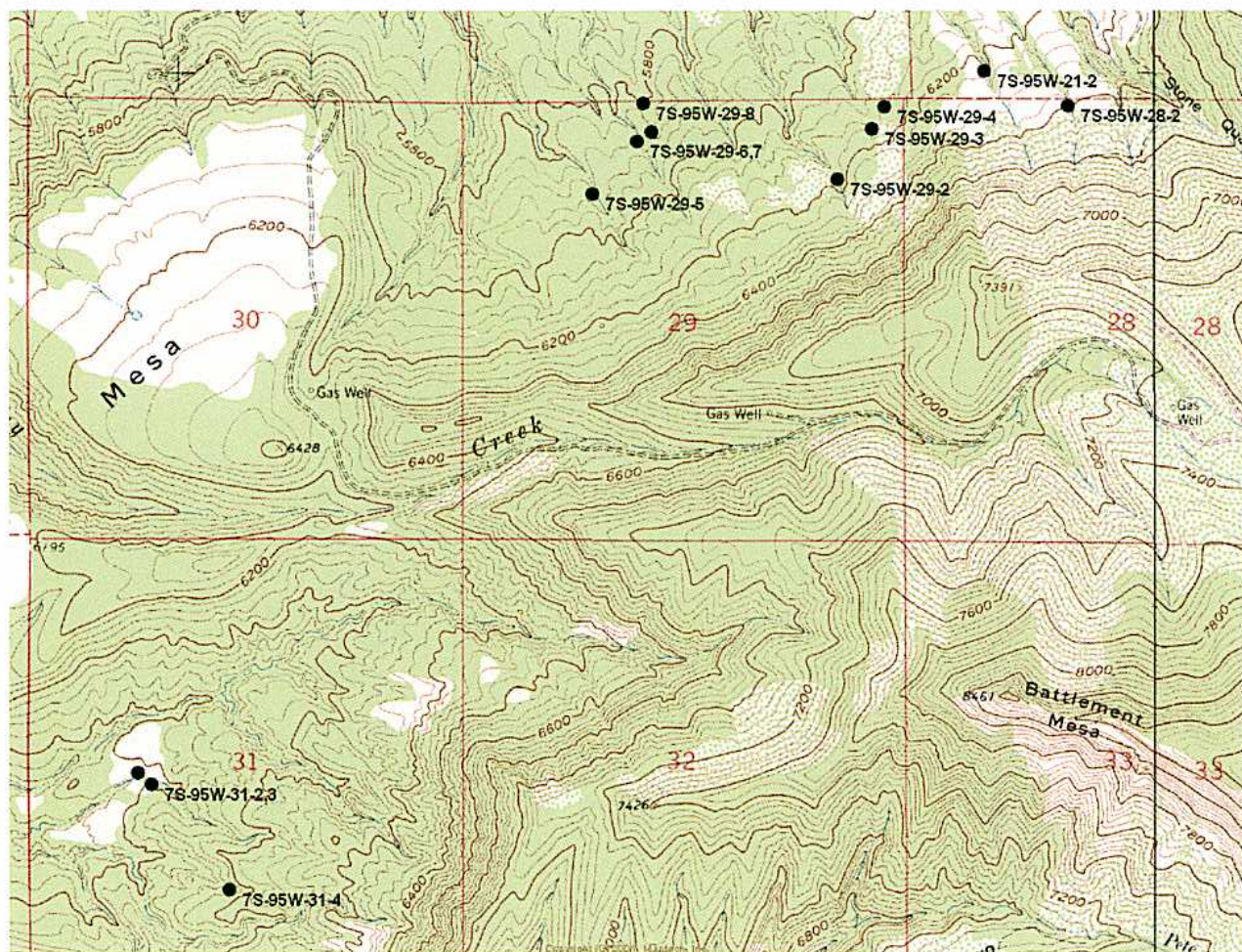
FIELD SURVEY INFORMATION FOR SURVEYS COMPLETED 10/28/05	
<i>Site Number</i>	7S-95W-31-4
<i>Date Surveyed</i>	10/28/2005
<i>Pad or Access Road Number</i>	PN31-7-95
<i>Section</i>	31
<i>Township</i>	7S
<i>Range</i>	95W
<i>Drainage Name</i>	NA
<i>Tributary to</i>	Pete & Bill Creek
<i>North Coordinates</i>	39°23'23.5"
<i>West Coordinates</i>	108°2'23.4"
<i>Ordinary High Water Mark (feet)</i>	0.50
<i>Drainage Type</i>	Ephemeral
<i>Construction Description</i>	Proposed culvert
<i>Fill Length (feet)</i>	35
<i>Fill Width (feet)</i>	20
<i>Culvert Size (feet in diameter)</i>	3
<i>Up Gradient Fill Height (feet)</i>	15
<i>Down Gradient Fill Height (feet)</i>	18
<i>Average Fill Height (feet)</i>	16.5
<i>Up Gradient Channel Width (feet)</i>	2
<i>Down Gradient Channel Width (feet)</i>	2
<i>Average Channel Width (feet)</i>	2
<i>Up Gradient Drainage Width (feet)</i>	30
<i>Down Gradient Drainage Width (feet)</i>	40
<i>Average Drainage Width (feet)</i>	35
<i>Approximate Cubic Yards Fill in Drainage</i>	428
<i>Approximate Cubic Yards Fill Below Ordinary High Water Mark</i>	1
<i>Landowners</i>	BLM





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**Stone Quarry Gulch, Pete & Bill Creek, and Colorado River  
Tributary Drainage Crossings  
PC28-7-95, PN21-7-95, PN20-7-95, & PN31-7-95 Access Roads  
EnCana Oil & Gas (USA) Inc.  
October, 2005**



Source Map: 7.5 Minute USGS Topographic Map (Parachute Quadrangle)



**Photographic Log**  
**Drainage Crossings, EnCana Oil and Gas (USA), Inc.**  
**10/28/05**



**PHOTO 1**

**Location:** PC28-7-95 Access Road

**Site Number:** 7S-95W-29-2

**Coordinates:** N39°24'47.5" W108°0'50.8"



**PHOTO 2**

**Location:** PC28-7-95 Access Road

**Site Number:** 7S-95W-29-2

**Coordinates:** N39°24'47.5" W108°0'50.8"



**PHOTO 3**

**Location:** PC28-7-95 Access Road

**Site Number:** 7S-95W-29-3

**Coordinates:** N39°24'53.4" W108°0'43.6"



**Photographic Log**  
**Drainage Crossings, EnCana Oil and Gas (USA), Inc.**  
**10/28/05**



**PHOTO 4**

**Location:** PC28-7-95 Access Road

**Site Number:** 7S-95W-29-3

**Coordinates:** N39°24'53.4" W108°0'43.6"



**PHOTO 5**

**Location:** PC28-7-95 Access Road

**Site Number:** 7S-95W-29-3

**Coordinates:** N39°24'53.4" W108°0'43.6"



**PHOTO 6**

**Location:** PC28-7-95 Access Road

**Site Number:** 7S-95W-29-3

**Coordinates:** N39°24'53.4" W108°0'43.6"



**Photographic Log**  
**Drainage Crossings, EnCana Oil and Gas (USA), Inc.**  
**10/28/05**



**PHOTO 7**

**Location:** PN21-7-95 Access Road

**Site Number:** 7S-95W-29-4

**Coordinates:** N39°24'56.0" W108°0'41.0"



**PHOTO 8**

**Location:** PN21-7-95 Access Road

**Site Number:** 7S-95W-29-4

**Coordinates:** N39°24'56.0" W108°0'41.0"



**PHOTO 9**

**Location:** PN21-7-95 Access Road

**Site Number:** 7S-95W-21-2

**Coordinates:** N39°25'0.3" W108°0'29.8"



**Photographic Log**  
**Drainage Crossings, EnCana Oil and Gas (USA), Inc.**  
**10/28/05**



**PHOTO 10**

**Location:** PN21-7-95 Access Road

**Site Number:** 7S-95W-21-2

**Coordinates:** N39°25'0.3" W108°0'29.8"



**PHOTO 11**

**Location:** PC28-7-95 Access Road

**Site Number:** 7S-95W-28-2

**Coordinates:** N39°24'56.1" W108°0'15.3"



**PHOTO 12**

**Location:** PC28-7-95 Access Road

**Site Number:** 7S-95W-28-2

**Coordinates:** N39°24'56.1" W108°0'15.3"



**Photographic Log**  
**Drainage Crossings, EnCana Oil and Gas (USA), Inc.**  
**10/28/05**



**PHOTO 13**

**Location:** PN20-7-95 Access Road

**Site Number:** 7S-95W-29-5

**Coordinates:** N39°24'45.7" W108°1'27.9"



**PHOTO 14**

**Location:** PN20-7-95 Access Road

**Site Number:** 7S-95W-29-5

**Coordinates:** N39°24'45.7" W108°1'27.9"



**PHOTO 15**

**Location:** PN20-7-95 Access Road

**Site Number:** 7S-95W-29-6

**Coordinates:** N39°24'51.9" W108°1'20.9"



**Photographic Log**  
**Drainage Crossings, EnCana Oil and Gas (USA), Inc.**  
**10/28/05**



**PHOTO 16**

**Location:** PN20-7-95 Access Road

**Site Number:** 7S-95W-29-6

**Coordinates:** N39°24'51.9" W108°1'20.9"



**PHOTO 17**

**Location:** PN20-7-95 Access Road

**Site Number:** 7S-95W-29-7

**Coordinates:** N39°24'53.1" W108°1'18.7"



**PHOTO 18**

**Location:** PN20-7-95 Access Road

**Site Number:** 7S-95W-29-7

**Coordinates:** N39°24'53.1" W108°1'18.7"



**Photographic Log**  
**Drainage Crossings, EnCana Oil and Gas (USA), Inc.**  
**10/28/05**



**PHOTO 19**

**Location:** PN20-7-95 Access Road

**Site Number:** 7S-95W-29-8

**Coordinates:** N39°24'56.4" W108°1'18.2"



**PHOTO 20**

**Location:** PN20-7-95 Access Road

**Site Number:** 7S-95W-29-8

**Coordinates:** N39°24'56.4" W108°1'18.2"



**PHOTO 21**

**Location:** PN20-7-95 Access Road

**Site Number:** NA

**Coordinates:** NA



**Photographic Log**  
**Drainage Crossings, EnCana Oil and Gas (USA), Inc.**  
**10/28/05**



**PHOTO 22**

**Location:** PN31-7-95 Access Road

**Site Number:** 7S-95W-31-2

**Coordinates:** N39°23'37.3" W108°2'36.2"



**PHOTO 23**

**Location:** PN31-7-95 Access Road

**Site Number:** 7S-95W-31-2

**Coordinates:** N39°23'37.3" W108°2'36.2"



**PHOTO 24**

**Location:** PN31-7-95 Access Road

**Site Number:** 7S-95W-31-3

**Coordinates:** N39°23'35.9" W108°2'33.9"



**Photographic Log**  
**Drainage Crossings, EnCana Oil and Gas (USA), Inc.**  
**10/28/05**



**PHOTO 25**

**Location:** PN31-7-95 Access Road

**Site Number:** 7S-95W-31-3

**Coordinates:** N39°23'35.9" W108°2'33.9"



**PHOTO 26**

**Location:** PN31-7-95 Access Road

**Site Number:** 7S-95W-31-4

**Coordinates:** N39°23'23.5" W108°2'23.5"



**PHOTO 27**

**Location:** PN31-7-95 Access Road

**Site Number:** 7S-95W-31-4

**Coordinates:** N39°23'23.5" W108°2'23.5"



## ENCANA DRAINAGE EVALUATION FIELD SHEETS

Site Number: 75-95W-29-2

Date: 10-28-05

Access Road/Pad Number: PC 28-7-95, PN 21-7-95

Section: 29

• Township: 75

Range: 95W

Stream Name or Drainage Tributary: Colo. River

NAD 27 Coordinates: N 39° 24' 47.5" W 108° 0' 50.8" 6187' ± 19'

Location Description (road, pad, pipeline, etc.): \_\_\_\_\_

Ordinary High Water Mark (feet): 0.5'

Drainage Type (perennial, ephemeral, intermittent): \_\_\_\_\_

Construction Description: prop. culvert

Fill Length (feet): 40 x 20

Culvert Size (diameter in feet): 22

Up Gradient Fill Height (plus culvert feet): 8

Down Gradient Fill Height (plus culvert feet): 10

Up Gradient Channel Width (feet): 0.5

Down Gradient Channel Width (feet): 0.5

Up Gradient Drainage Width (feet): 40

Down Gradient Drainage Width (feet): 80

Photos: (4) WS S (5) ds N  
1 2

General Site Description:



## ENCANA DRAINAGE EVALUATION FIELD SHEETS

Site Number: 75-95W-29-3

Date: 10-28-05

Access Road/Pad  
Number: PC 28-7-95, PN 21-7-95

Section: 29

Township: 75

Range: 95w

Stream Name or Drainage Tributary: Stone Quarry Creek Colo. River

NAD 27 Coordinates: N 39° 24' 53.4" W 108° 0' 43.6" 6174' ±15'

Location Description (road, pad, pipeline, etc.): \_\_\_\_\_

Ordinary High Water Mark (feet): 0.5

Drainage Type (perennial, ephemeral, intermittent): \_\_\_\_\_

Construction Description: prop culvert

Fill Length (feet): 80 x 20

Culvert Size (diameter in feet): 2 prop. culverts 2', 2'

Up Gradient Fill Height (plus culvert feet): 8

Down Gradient Fill Height (plus culvert feet): 12'

Up Gradient Channel Width (feet): 11

Down Gradient Channel Width (feet): 11

Up Gradient Drainage Width (feet): 80

Down Gradient Drainage Width (feet): 100

Photos: ⑥ scarp @ base of landslide ⑦ us SE ⑧ us SW ⑨ ds NN ⑩ ds NE

General Site Description: drainage @ base of landslide



# ENCANA DRAINAGE EVALUATION FIELD SHEETS

Site Number: 75-95W-29-4

Date: 10-29-05

Access Road/Pad  
Number: PC28-7-95, PN21-7-95

Section: 29

Township: 75

Range: 95W

Stream Name or Drainage Tributary: Stone Quarry Gulch Colo. River

NAD 27 Coordinates: N 39° 24' 56.0" W 103° 0' 41.0" 6173' ± 16'

Location Description (road, pad, pipeline, etc.): \_\_\_\_\_

Ordinary High Water Mark (feet): 0.5

Drainage Type (perennial, ephemeral, intermittent): \_\_\_\_\_

Construction Description: prop culvert

Fill Length (feet): 20 x 20

Culvert Size (diameter in feet): 2'

Up Gradient Fill Height (plus culvert feet): 3

Down Gradient Fill Height (plus culvert feet): 8

Up Gradient Channel Width (feet): 0.5

Down Gradient Channel Width (feet): 0.5

Up Gradient Drainage Width (feet): 20

Down Gradient Drainage Width (feet): 30

Photos: (11) ws S (12) ds N  
7 8

General Site Description:



## ENCANA DRAINAGE EVALUATION FIELD SHEETS

Site Number: 7S-95W-21-2

Date: 10-28-05

Access Road/Pad  
Number: PC28-7-95, PN21-7-95

Section: 21

Township: 7S

Range: 95W

Stream Name or Drainage Tributary: Stone Quarry Gully Colo. River

NAD 27 Coordinates: N 39° 25' 0.3" W 108° 0' 29.8" 6240' ± 16'

Location Description (road, pad, pipeline, etc.): \_\_\_\_\_

Ordinary High Water Mark (feet): 0.5

Drainage Type (perennial, ephemeral, intermittent): \_\_\_\_\_

Construction Description: prop culvert

Fill Length (feet): 20 x 20

Culvert Size (diameter in feet): 2'

Up Gradient Fill Height (plus culvert feet): 4

Down Gradient Fill Height (plus culvert feet): 8

Up Gradient Channel Width (feet): 1

Down Gradient Channel Width (feet): 1

Up Gradient Drainage Width (feet): 20

Down Gradient Drainage Width (feet): 30

Photos: (13) as S (14) ds  
9 10

General Site Description:



## ENCANA DRAINAGE EVALUATION FIELD SHEETS

Site Number: 75-95w-28-2

Date: 10-28-05

Access Road/Pad  
Number: PC28-7-95

Section: 28

Township: 75

Range: 95w

Stream Name or Drainage Tributary: Stone Quarry Gulch

NAD 27 Coordinates: N39°24'56.1" W108°0'15.3" 6433' ± 31'

Location Description (road, pad, pipeline, etc.): \_\_\_\_\_

Ordinary High Water Mark (feet): 0.5

Drainage Type (perennial, ephemeral, intermittent): \_\_\_\_\_

Construction Description: prop culvert

Fill Length (feet): 20 x 20

Culvert Size (diameter in feet): 2'

Up Gradient Fill Height (plus culvert feet): 8

Down Gradient Fill Height (plus culvert feet): 12

Up Gradient Channel Width (feet): 1

Down Gradient Channel Width (feet): 1

Up Gradient Drainage Width (feet): 20

Down Gradient Drainage Width (feet): 25

Photos: (15) ws S (16) ds N  
11 12

General Site Description: spring at top of landslide in base of cliff (17)(18)  
@ N39°24'48.6" W108°0'41.0" 6290' ± 16'



## ENCANA DRAINAGE EVALUATION FIELD SHEETS

Site Number: 75-95W-29-5

Date: 10-28-05

Access Road/Pad  
Number: PN 20-7-95

Section: 29

Township: 75

Range: 95W

Stream Name or Drainage Tributary: Colorado River

NAD 27 Coordinates: N 39° 24' 45.7" W 108° 1' 27.9" 5912' ± 28'

Location Description (road, pad, pipeline, etc.): \_\_\_\_\_

Ordinary High Water Mark (feet): 0.5

Drainage Type (perennial, ephemeral, intermittent): \_\_\_\_\_

Construction Description: prop. culvert

Fill Length (feet): 30 x 20

Culvert Size (diameter in feet): 3'

Up Gradient Fill Height (plus culvert feet): 8

Down Gradient Fill Height (plus culvert feet): 12

Up Gradient Channel Width (feet): 1.5

Down Gradient Channel Width (feet): 1.5

Up Gradient Drainage Width (feet): 30

Down Gradient Drainage Width (feet): 30

Photos: (19) vs S (20) vs N  
13 14

General Site Description:



## ENCANA DRAINAGE EVALUATION FIELD SHEETS

Site Number: 75-95W-29-6

Date: 10-28-05

Access Road/Pad  
Number: AN 20-7-95

Section: 29

Township: 75

Range: 95W

Stream Name or Drainage Tributary: Colorado River

NAD 27 Coordinates: N 39° 24' 51.9" W 108° 1' 20.9" 5888' ± 23'

Location Description (road, pad, pipeline, etc.): \_\_\_\_\_

Ordinary High Water Mark (feet): 0.5

Drainage Type (perennial, ephemeral, intermittent): \_\_\_\_\_

Construction Description: prop. culvert

Fill Length (feet): 30 x 20

Culvert Size (diameter in feet): 2'

Up Gradient Fill Height (plus culvert feet): 8

Down Gradient Fill Height (plus culvert feet): 12

Up Gradient Channel Width (feet): 1

Down Gradient Channel Width (feet): 1

Up Gradient Drainage Width (feet): 30

Down Gradient Drainage Width (feet): 30

Photos: (21) W S (22) S N  
15 16

General Site Description:



## ENCANA DRAINAGE EVALUATION FIELD SHEETS

Site Number: 7s-95w-29-7

Date: 10-28-05

Access Road/Pad  
Number: PN20-7-95

Section: 29

Township: 7s

Range: 95w

Stream Name or Drainage Tributary: Calo River

NAD 27 Coordinates: N 39°24'53.1" W 108°1'18.7" S 882' ± 21'

Location Description (road, pad, pipeline, etc.): \_\_\_\_\_

Ordinary High Water Mark (feet): 0.5

Drainage Type (perennial, ephemeral, intermittent): \_\_\_\_\_

Construction Description: prop culvert

Fill Length (feet): 20 x 20

Culvert Size (diameter in feet): 2'

Up Gradient Fill Height (plus culvert feet): 5

Down Gradient Fill Height (plus culvert feet): 8

Up Gradient Channel Width (feet): 0.5

Down Gradient Channel Width (feet): 0.5

Up Gradient Drainage Width (feet): 20

Down Gradient Drainage Width (feet): 20

Photos: (23) vs S (24) vs N  
17 18

General Site Description:



## ENCANA DRAINAGE EVALUATION FIELD SHEETS

Site Number: 7s-95w-29-8

Date: 10-28-05

Access Road/Pad  
Number: PN 20-7-45

Section: 29

Township: 7s

Range: 95w

Stream Name or Drainage Tributary: Colo. River

NAD 27 Coordinates: N 39° 24' 56.4" W 108° 1' 18.2" 5849' ± 35'

Location Description (road, pad, pipeline, etc.): \_\_\_\_\_

Ordinary High Water Mark (feet): 0.5

Drainage Type (perennial, ephemeral, intermittent): \_\_\_\_\_

Construction Description: prop. culvert

Fill Length (feet): 30.20

Culvert Size (diameter in feet): 2'

Up Gradient-Fill-Height-(plus culvert feet): 10

Down Gradient Fill Height (plus culvert feet): 14

Up Gradient Channel Width (feet): 0.5

Down Gradient Channel Width (feet): 0.5

Up Gradient Drainage Width (feet): 30

Down Gradient Drainage Width (feet): 30

Photos: (25) up SE (26) ds NW

19 20  
General Site Description:



## ENCANA DRAINAGE EVALUATION FIELD SHEETS

Site Number: 7S-95W-31-2

Date: 10-28-05

Access Road/Pad  
Number: PN31-7-95

Section: 31

Township: 7S

Range: 95W

Stream Name or Drainage Tributary: Pete + Bill Cr

NAD 27 Coordinates: N 39° 23' 37.3" W 108° 2' 36.2" 5816' ± 17'

Location Description (road, pad, pipeline, etc.): \_\_\_\_\_

Ordinary High Water Mark (feet): 0.5

Drainage Type (perennial, ephemeral, intermittent): \_\_\_\_\_

Construction Description: prop culvert

Fill Length (feet): 25 x 20

Culvert Size (diameter in feet): 2

Up Gradient Fill Height (plus culvert feet): 3

Down Gradient Fill Height (plus culvert feet): 5

Up Gradient Channel Width (feet): 0.5

Down Gradient Channel Width (feet): 0.5

Up Gradient Drainage Width (feet): 20

Down Gradient Drainage Width (feet): 25

Photos: (27) us E (28) ds W  
22 23

General Site Description:



## ENCANA DRAINAGE EVALUATION FIELD SHEETS

Site Number: 75-95W-31-3

Date: 10-23-05

Access Road/Pad  
Number: PN 31-7-95

Section: 31

Township: 7S

Range: 95W

Stream Name or Drainage Tributary: Pete + Ball Cr

NAD 27 Coordinates: N 39° 23' 35.9" W 108° 2' 33.9" 5829' ± 15'

Location Description (road, pad, pipeline, etc.): \_\_\_\_\_

Ordinary High Water Mark (feet): 0.5

Drainage Type (perennial, ephemeral, intermittent): \_\_\_\_\_

Construction Description: prop. culvert

Fill Length (feet): 40 x 20

Culvert Size (diameter in feet): 4'

Up Gradient Fill Height (plus culvert feet): 8

Down Gradient Fill Height (plus culvert feet): 10

Up Gradient Channel Width (feet): 2', 3'

Down Gradient Channel Width (feet): 4'

Up Gradient Drainage Width (feet): 50'

Down Gradient Drainage Width (feet): 40'

Photos: (29) vs E (30) vs W  
24 25

General Site Description:

# ENCANA DRAINAGE EVALUATION FIELD SHEETS

Site Number: 7s-95w-31-4

Date: 10-28-05

Access Road/Pad Number: PN31-7-95

Section: 31

Township: 7s

Range: 95w

Stream Name or Drainage Tributary: Pete + Bill Cr

NAD 27 Coordinates: N39°23'23.5" W108°2'23.4" 6017' ±20

Location Description (road, pad, pipeline, etc.): \_\_\_\_\_

Ordinary High Water Mark (feet): 0.5

Drainage Type (perennial, ephemeral, intermittent): \_\_\_\_\_

Construction Description: prop culvert

Fill Length (feet): 35 x 20

Culvert Size (diameter in feet): 3'

Up Gradient Fill Height (plus culvert feet): 12

Down Gradient Fill Height (plus culvert feet): 15

Up Gradient Channel Width (feet): 2

Down Gradient Channel Width (feet): 2

Up Gradient Drainage Width (feet): 30

Down Gradient Drainage Width (feet): 40

Photos: (31) vs E (32) vs W  
26 27

General Site Description: