



#4938

State of Colorado

Oil and Gas Conservation Commission

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



FOR OGCC USE ONLY

SITE INVESTIGATION AND REMEDIATION WORKPLAN

This form shall be submitted to the Director for approval prior to the initiation of site investigation and remediation activities. Form 27 is intended to be used whenever possible. Additional documentation will be required when large volumes of soil and groundwater have been impacted or involve large facilities with multiple source areas. See Rule 910. Attach as many pages as needed to fully describe the proposed work.

CAUSE OF CONDITION BEING INVESTIGATED AND REMEDIATED

☐ Spill or Release ☐ Plug & Abandon ☐ Central Facility Closure ☐ Site/Facility Closure ☒ Other (describe): Production Pit Closure

OGCC Employee:

☐ Spill ☐ Complaint
☐ Inspection ☐ NOAV

Tracking No:

OGCC Operator Number: 96850

Name of Operator: Williams Production RMT Company

Address: 1058 County Road 215

City: Parachute State: CO Zip: 81635

Contact Name and Telephone:

Michael J. Gardner

No: 970.263.2760

Fax: 970.263.5313

API Number: County: Garfield

Facility Name: TR 31-21-597 Facility Number: 284696

Well Name: Well Number:

Location: (QtrQtr, Sec, Twp, Rng, Meridian): SWNE Sec 21, T5S, R97W, 6th PM Latitude: 39.602676 Longitude: -108.282234

TECHNICAL CONDITIONS

Type of Waste Causing Impact (crude oil, condensate, produced water, etc): None (produced water)

Site Conditions: Is location within a sensitive area (according to Rule 901e)? ☐ Y ☒ N If yes, attach evaluation.

Adjacent land use (cultivated, irrigated, dry land farming, industrial, residential, etc.): Non-crop rangeland, non-irrigated

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Parachute-Irigul, 5 to 30% slopes

Potential receptors (water wells within 1/4 mi, surface waters, etc.): There are no permitted water wells within 1/4 mi.; Pearl Creek lies approx. 640 ft. to the east

Description of Impact (if previously provided, refer to that form or document):

Impacted Media (check):



Soils



Vegetation



Groundwater



Surface Water

Extent of Impact:

To be Determined

How Determined:

Field screen, visual assessment and lab confirmation samples/results

REMEDIALATION WORKPLAN

Describe initial action taken (if previously provided, refer to that form or document):

At the location(s) of the pit which are the furthest downgradient, lowest in elevation and/or have the potential for pooling of liquid, the site will be field screened utilizing a photoionization gas detector for volatile hydrocarbons. A composite sample will be submitted for laboratory analysis; analytes will include those relevant from Table 910-1. A visual assessment will also be performed and documented by qualified personnel.

Describe how source is to be removed:

All pit liquids will be evaporated or hauled off for disposal at an approved facility. The source - production pit - will be removed in accordance with the COGCC 900 and 1000 series rules. The synthetic liner will be removed and disposed of at an approved facility as a solid waste. At the time of the last pit liner inspection there were no suspect signs or conditions that would indicate past or present failure of the liner/containment system.

Describe how remediation of existing impacts is to be accomplished, including removal and disposal at an injection well or licensed facility, land treatment on site, removal of impacted groundwater, insitu bioremediation, burning of oily vegetation, etc.:

Not yet determined; however, should contamination be encountered the following actions will be taken. The impacted area will be excavated and disposed of in accordance with all applicable rules and regulations regarding solid waste. Field screen equipment will be used to guide the excavation to ensure compliance with Table 910-1 of the COGCC 900 series rule. The excavated material will be placed within a lined and bermed containment cell pending the following options. Remediation options may include on-site landfarming/bioremediation, in-situ remediation and/or disposal at an approved waste facility (i.e. Garfield County Landfill, Wray Gulch Landfill). Final disposition will be dependent upon identified contaminants, contaminant concentration, land availability, landowner approval and waste volume.

Submit Page 2 with Page 1

* Note added by Carlos Lujan
 Table provided by Williams with all Table 910-1
 analytes w/o Boron.



Tracking Number: _____
Name of Operator: _____
OGCC Operator No: _____
Received Date: _____
Well Name & No: _____
Facility Name & No: _____

Page 2

REMEDIAL WORKPLAN (Cont.)

OGCC Employee: _____

If groundwater has been impacted, describe proposed monitoring plan (# of wells or sample points, sampling schedule, analytical methods, etc.):

Presently, there are no known impacts to groundwater. Should groundwater impacts be determined to exist, an appropriate and site specific monitoring plan will be developed and submitted for approval.

Describe reclamation plan. Discuss existing and new grade recontouring; method and testing of compaction alleviation; and reseeding program, including location of new seed, seed mix and noxious weed prevention. Attach diagram or drawing. Use additional sheet for description if required.

The pit will be reclaimed to the present grade of the location or to the approximate original contour of the landscape. Seeding of the disturbed area will be performed in accordance with its' intended use. The seed mix will be prescribed by the landowner. There are no known noxious weeds in the immediate area of the disturbance. A noxious weed survey is performed annually of the Trail Ridge field which includes this location. As a preventative measure, Williams seeds all disturbed areas as soon as practicable with temporary or sterile annual seed mixes to: 1) provide soil stability, and 2) serve as a nurse or cover crop for desired species; derived from the natural seed bank and/or the applied seed mix. Bare ground treatment is a common practice by Williams and any identified noxious weed species will be spot treated for immediate eradication and prevention of encroachment and dispersal. A plat of the location is attached for reference.

Attach samples and analytical results taken to verify remediation of impacts. Show locations of samples on an onsite schematic or drawing.

Is further site investigation required? ☐ Y ☐ N If yes, describe:

Not yet determined. A determination of whether further site investigation is required is pending field assessments and screening, which is to be confirmed by analytical results from an accredited - NELAP - laboratory (i.e. Evergreen Analytical Laboratory).

Final disposition of E&P waste (landtreated and disposed onsite, name of licensed disposal facility, recycling, reuse, etc.):

If the stockpiled volume is small enough to manage on-site, there is available area on location, concentrations are within a reasonable range to be remediated in a timely manner and the identified contaminants are conducive to bioremediation, landfarming or in-situ remediation may occur. Should the aforementioned attributes exist at a level which is not conducive to bioremediation then off-site disposal will be the final disposition of all impacted materials. If the latter option is taken, disposal will occur at either the West Garfield County Landfill (045-LFL-005; Parachute, CO) or the Wray Gulch Landfill (103-LFL-020; Meeker, CO). Any soils requiring treatment that, once treated, fall below the allowable concentrations and levels provided in Table 910-1 may be recycled and reused at Williams production sites as fill material.

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: <u>Upon approval</u>	Date Site Investigation Completed: <u>TBD</u>	Date Remediation Plan Submitted: <u>September 8, 2009</u>
Remediation Start Date: <u>Upon approval</u>	Anticipated Completion Date: <u>TBD</u>	Actual Completion Date: <u>TBD</u>

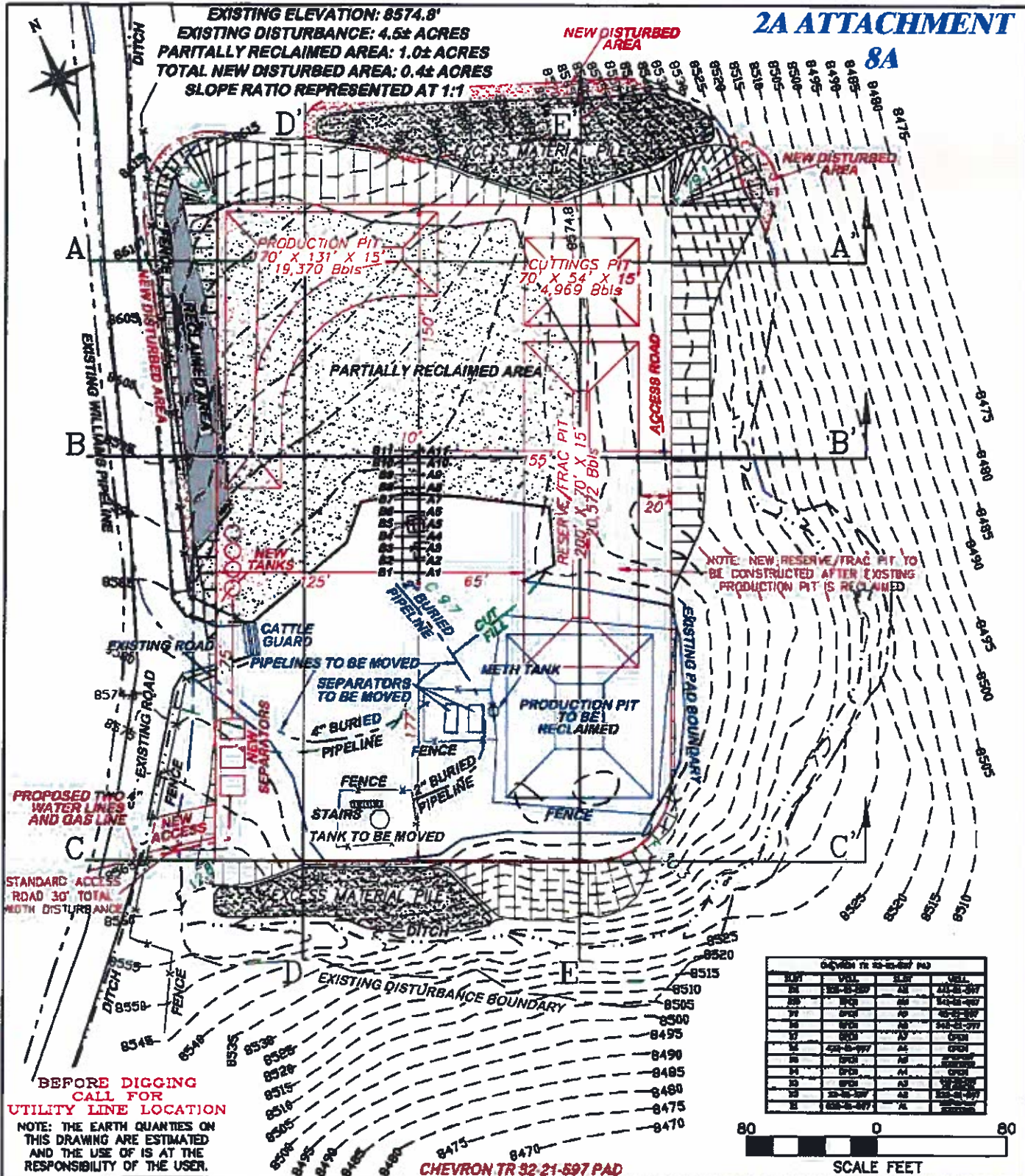
I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct, and complete.

Print Name: Michael J. Gardner Signed: _____

Title: Principal Environmental Specialist Date: September 8, 2009

OGCC Approved: _____ Title: _____ Date: _____

EXISTING ELEVATION: 8574.8'
 EXISTING DISTURBANCE: 4.5± ACRES
 PARTIALLY RECLAIMED AREA: 1.0± ACRES
 TOTAL NEW DISTURBED AREA: 0.4± ACRES
 SLOPE RATIO REPRESENTED AT 1:1



RIFFIN & ASSOCIATES, INC.

1414 ELK ST., ROCK SPRINGS, WY 82801

(307) 322-0022

DRAWN: 2/24/06

SCALE: 1" = 80'

REVISED: 1/21/10 - MMM

DRG JOB No. 12655

MISC. REVISIONS

EXHIBIT 2 - SHEET 2 OF 2

CONSTRUCTION LAYOUT DRAWING 2 OF 4

WILLIAMS PRODUCTION RMT COMPANY

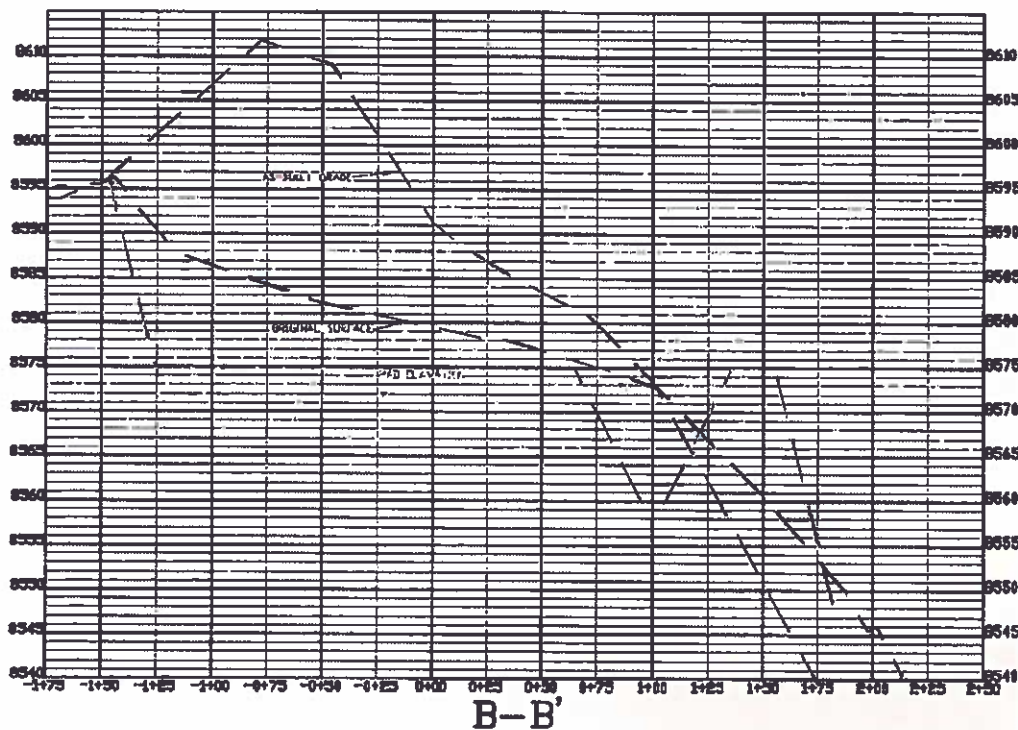
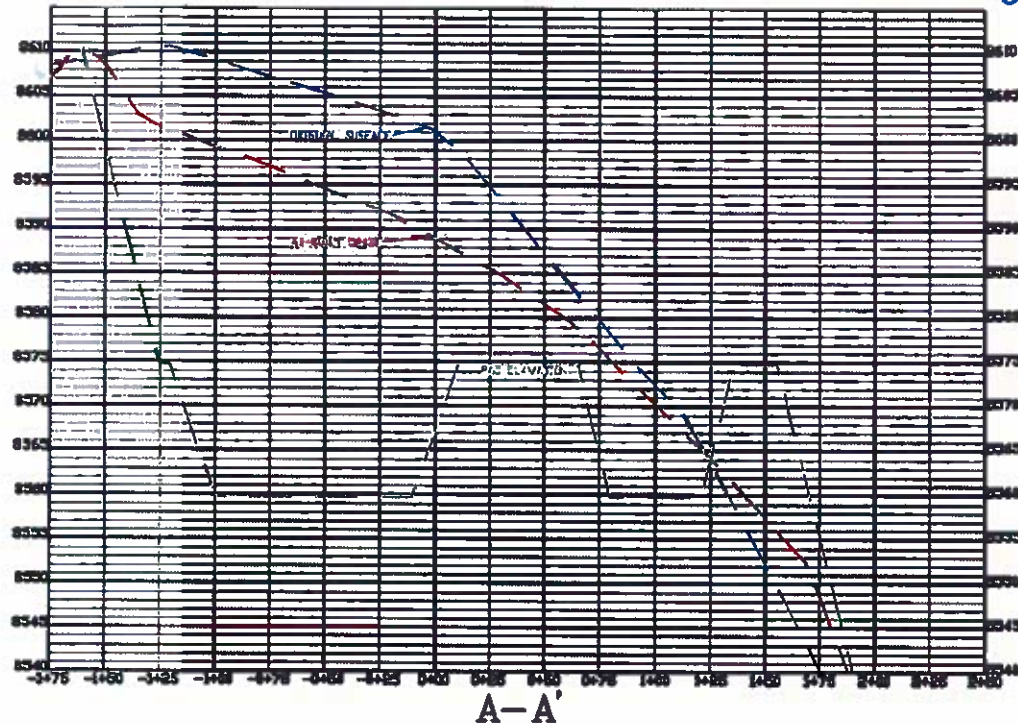
CHEVRON TR 31, 32, 42, 332, 342, 432, 441, 442, 431, 532, 541,
632-21-597

SWNE, SWNE, SECTION 36, T5S, R97W, 6th P.M., 6th P.M.

ESTIMATED EARTHWORK (ALL PITS INCLUDED)

ITEM	CUT	FILL	TOPSOIL	EXCESS
PAD	21076 CY	5349 CY	2088 CY	18639 CY
PIT	9339 CY			9339 CY
TOTALS	30415 CY	5349 CY	2088 CY	22978 CY

2A ATTACHMENT 8B



CHEVRON TR 32-21-597 PAD



RIFFIN & ASSOCIATES, INC.
1414 ELK ST., ROCK SPRINGS, WY 82901

(307) 382-8028

DRAWN: 12/23/09 - MMM

HORZ. 1" = 80' VERT. 1" = 20'

REVISED: 1/20/10 - MMM

DRG JOB No. 12855

MISC. REVISIONS

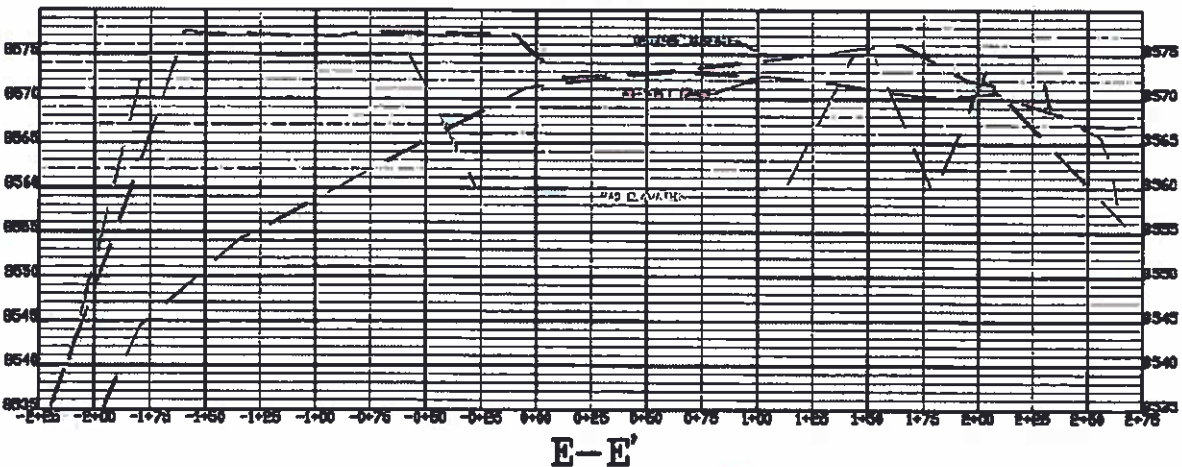
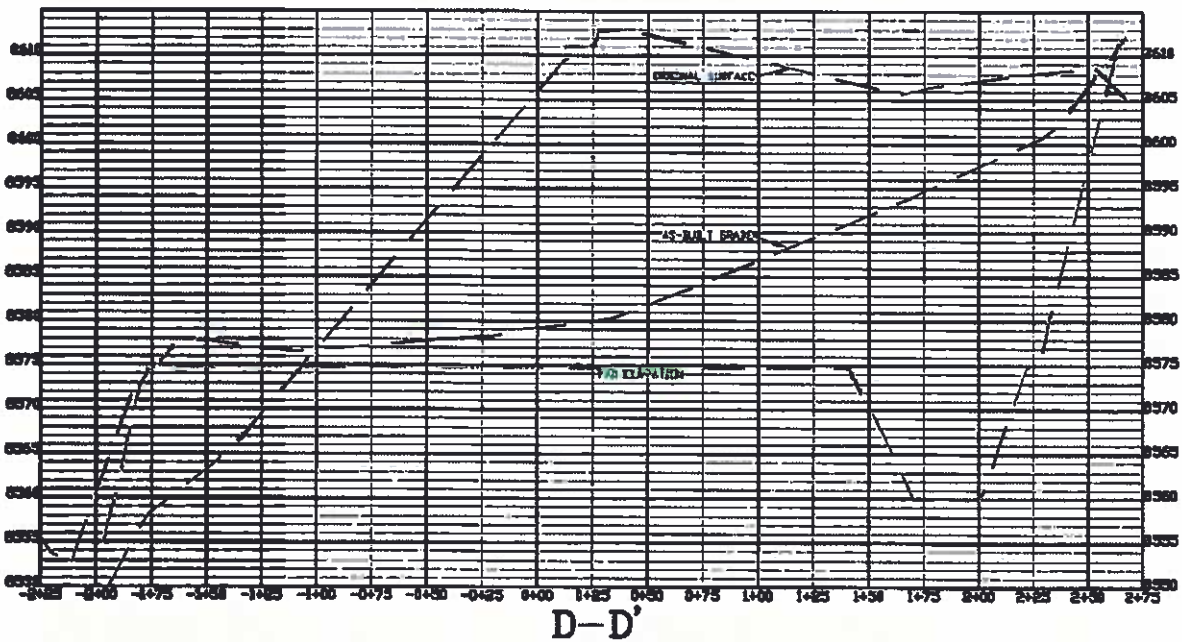
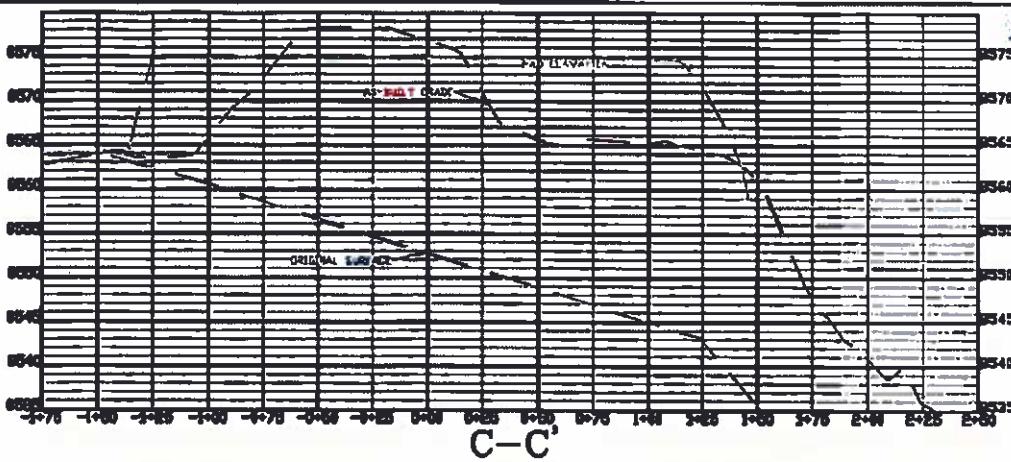
EXHIBIT 3 - SHEET 1 OF 2

CONSTRUCTION LAYOUT DRAWING 3 OF 4

WILLIAMS PRODUCTION RMT COMPANY
CHEVRON TR 31, 32, 42, 332, 342, 432, 441, 442,
531, 532, 541, 632-21-597
SWNE, SWNE, SECTION 36, T5S, R97W, 6th P.M.,
6th P.M.

EXISTING ELEVATION: 8574.8'

2A ATTACHMENT 8B



CHEVRON TR 32-21-597 PAD



RIFFIN & ASSOCIATES, INC.
1414 ELK ST., ROCK SPRINGS, WY 82901

(307) 362-6026

DRAWN: 12/23/09 - MMM

HORZ 1" = 80' VERT. 1" = 20'

REVISED: 1/20/10 - MMM

DRG JOB No. 12855

MISC. REVISIONS

EXHIBIT 3 - SHEET 2 OF 2

CONSTRUCTION LAYOUT DRAWING 4 OF 4

WILLIAMS PRODUCTION RMT COMPANY
CHEVRON TR 31, 32, 42, 332, 342, 432, 441, 442,
531, 532, 541, 632-21-597
SWNE, SWNE, SECTION 36, T5S, R97W, 6th P.M.,
6th P.M.

EXISTING ELEVATION: 8574.8'

PRODUCTION PIT EVAPORATION CALCULATION

TR 32-21-597
SWNE SECTION 21 T5S R97W
GARFIELD COUNTY, COLORADO

EVAPORATION CALCULATION

- A) EVAPORATION RATE = 40 (in/yr)
- B) APPROX PIT SIZE = (170' X 131') - (65' X 55') X 15' (FREEBOARD = 2')
APPROX SURFACE AREA = (150' X 110') - (65' X 55') = 13,075 sq ft
EVAPORATION RATE = 40 (in/yr) * 1/12(ft/in) * 2400 sq ft * 1/5.615(bbls/cu ft)

<u>Pad Name</u>	<u>Qtr/Qtr</u>	<u>Sec</u>	<u>Township</u>	<u>Range</u>
TR 32-21-597	SWNE		21 5s	97w

Evaporation Calculation

Based on annual evaporation of: 40 in/yr

Pit Size

Length	170 Ft
Width	131 Ft
Depth	15 Ft
Surface Area	13075 Sq Ft

Evaporation Rate: = (Annual Evap. Rate (in/yr)) *
(Surface Area (sq ft)) / ((12 in/ft) * (5.615 bbls / cu. Ft))
7761.947165 bbls/yr
21.26560867 bbls/d

Facility Name: TR 00-00-000
Facility # 00000

Name of Operator: Williams Production RMT Company
Latitude: 39.000000 Longitude: -108.000000
Location (QtrQtr, Sec, Twp, Rng, Meridian): XXXX, Sec 00, T0S, R00W, 6th PM

COGCC Operator # 96850
County: Garfield

ANNEX A:

Confirmatory Analyte List for Potential Contaminants of Concern in Soil:

Table 1 – Sample collection, handling and analysis summary

Analyte Class	Analysis	Method	COGCC Table 910-1 Standard	Holding Time	Container
Organics	TVPH (GRO)	SW8015 mod	500 mg/kg	14 days	4 oz. wide mouth jar
	TEPH (DRO)				
	Benzene	SW8021	0.17 mg/kg	14 days	4 oz. wide mouth jar
	Toluene		85 mg/kg		
	Ethylbenzene		100 mg/kg		
	Xylenes (total)		175 mg/kg		
	Acenaphthene	SW8270	1,000 mg/kg	14 days	4 oz. wide mouth jar
	Anthracene		0.22 mg/kg		
	Benzo (A) anthracene				
	Benzo (B) flouranthene				
	Benzo (K) fluoranthene		0.022 mg/kg		
	Benzo (A) pyrene				
	Chrysene		22 mg/kg		
	Dibenzo (A,H) anthracene		0.022 mg/kg		
	Fluoranthene		1,000 mg/kg		
	Fluorne		0.22 mg/kg		
	Indeno (1,2,3,C,D) pyrene				
	Naphthalene		23 mg/kg		
	Pyrene		1,000 mg/kg		
	Inorganics	Electrical Conductivity	USDA Hdbk	<4 mmhos/cm or 2x background	28 days
Sodium Adsorption Rate		USDA Hdbk 60 Method 20B or 3A	<12	180 days	1 gal. ziplock bag
pH		SW9045	6-9	< 24 hrs.	2 oz. wide mouth jar

Facility Name: TR 00-00-000
Facility # 00000

Name of Operator: Williams Production RMT Company
Latitude: 39.000000 Longitude: -108.000000

COGCC Operator # 96850
County: Garfield

Location (QtrQtr, Sec, Twp, Rng, Meridian): XXXX, Sec 00, T0S, R00W, 6th PM

Table 1 Cont'd - Sample collection, handling and analysis summary

Analyte Class	Analysis	Method	COGCC Table 910-1 Standard	Holding Time	Container
Total Metals*	Arsenic	SW 6010, 6020, 7470	0.39 mg/kg	28 days for Hg & 180 days for remaining	4 oz. wide mouth jar
	Barium		15,000 mg/kg		
	Cadmium		70 mg/kg		
	Chromium (III)		120,000 mg/kg		
	Chromium (IV)		23 mg/kg		
	Copper		3,100 mg/kg		
	Lead (inorganic)		400 mg/kg		
	Mercury		23 mg/kg		
	Nickel (soluble salts)		1,600 mg/kg		
	Selenium		390 mg/kg		
	Silver		390 mg/kg		
	Chloride		15,000 mg/kg		

General note: Preservation standards for organics and inorganics in soil are < 4°C as per EAL protocol. Of the above sample methods and procedures, none require a preservative to preserve sample integrity.

Note(*): Boron (hot water soluble) has been excluded from this analyte list as no crops (citrus or nuts) or other vegetation which may be sensitive to boron are known or are expected to be encountered. Should the Director or COGCC EPS decide to, at his discretion, require a Boron analysis the above analyte list will be modified to reflect that change and requirement, at that point in time.