

# EXHIBIT 2

							5 6 6 66 66.						
		Resour	ce Ln			Ba	tle Axe Rd	X					
35	36	31	32	33	34	35	36 Bd	31	32	33	34	35	
2	1	6	5	4	3	2	MaderaiRd	6	5	4	3	2	
11	7	SECT	ION LINE		Co A02	11	12	7	8	9	10	11	A
14	7	#704H		1705H		14	13	18	17			14	
23		35	250'	1	/ <b>34E</b>	23	24	19	20	21	22 22	23	
26	25	DETA		28	27	26	25	30	29	28	27	26	
35	36	Battle Axe R	:: 1" = 300' = 32	33	34	SEE DETAIL	36	31	32	33	34	35	
2	1	6	5	4	3	2	RUB	Y 2 FED COM 6	# 705H 5	4	3	2	Arth
Dimuladie Rd	12	7	8	9	10	11	12	Z	8	9	10	11	
14	13	18	17	16		14	13	18	17	16		14	
23	24	19	20	265	-34E	23	24	18	20	26S	-35E	23	
26	25	30	29	28	27	26	25	30	29	-28	27	26	
	6	000	0000	TCOR	Inc					1			

eog resources, inc.

RUBY 2 FED COM #705H

SECTION 2	_ TWP	26-S	_ RGE_	34-E	SURVEY	N.M.P.M.
COUNTY	LEA			STATE		MM
DESCRIPTION _			220' FN	IL & 2185	' FWL	

#### **DISTANCE & DIRECTION**

LEASE NAME & WELL NO .:

FROM INT. OF NM-2 & BATTLE AXE RD., GO EAST ON BATTLE AXE RD. ±0.2 MILES, THENCE CONTINUE EAST ON LEASE RD. ±6.1 MILES TO A POINT ±739 FEET SOUTH OF THE LOCATION.

THIS EASEMENT/SERVITUDE LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY, AND DATA PROVIDED BY EOG RESOURCES, INC. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.

ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREON ARE GRID BASED UPON THE NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE OF THE NORTH AMERICAN DATUM 1927, U.S. SURVEY FEET.







(SURVEY)EOG\_MIDLAND/RUBY\_2\_FED\_COM/FINAL\_PRODUCTS/LO\_RUBY2FEDCOM\_705H\_REV1.DWG 1/17/2017 9:31:38 AM tstewart



Well Name: RUBY 2 FED COM

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

RUBY2FEDCOM\_705H\_vicinity map\_01-19-2017.pdf

Existing Road Purpose: ACCESS, FLUID TRANSPORT

# ROW ID(s)

ID:

Do the existing roads need to be improved? NO Existing Road Improvement Description: Existing Road Improvement Attachment: Row(s) Exist? YES

Well Number: 705H

# Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES

#### New Road Map:

Ruby 2 Fed Com infrastructure sketch\_01-19-2017.pdf RUBY2FEDCOM\_705H\_well site\_01-19-2017.pdf Ruby 2 Fed Com 705H\_padsite\_01-19-2017.pdf

New road type: RESOURCE

Length: 517

Width (ft.): 24

Max slope (%): 2

Max grade (%): 20

Army Corp of Engineers (ACOE) permit required? NO

Feet

ACOE Permit Number(s):

New road travel width: 24

**New road access erosion control:** Newly constructed or reconstructed roads will be constructed as outlined in the BLM "Gold Book" and to meet the standards of the anticipated traffic flow and all anticipated weather requirements as needed. Construction will include ditching, draining, crowning and capping or sloping and dipping the roadbed as necessary to provide a well-constructed and safe road. We plan to grade and water twice a year. **New road access plan or profile prepared?** NO

New road access plan attachment:

Access road engineering design? NO

Access road engineering design attachment:

Access surfacing type: OTHER

Well Name: RUBY 2 FED COM

Well Number: 705H

Access topsoil source: ONSITE

Access surfacing type description: 6" of Compacted Caliche

Access onsite topsoil source depth: 6

Offsite topsoil source description:

Onsite topsoil removal process: An adequate amount of topsoil/root zone will be stripped by dozer from the proposed well location and stockpiled along the side of the well location as depicted on the well site diagram / survey plat. Access other construction information:

Access miscellaneous information:

Number of access turnouts:

Access turnout map:

## **Drainage Control**

New road drainage crossing: OTHER

Drainage Control comments: No drainage crossings

Road Drainage Control Structures (DCS) description: N/A

Road Drainage Control Structures (DCS) attachment:

### **Access Additional Attachments**

Additional Attachment(s):

#### Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

RUBY2FEDCOM\_705H\_radius map\_01-19-2017.pdf

Existing Wells description:

## Section 4 - Location of Existing and/or Proposed Production Facilities

Submit or defer a Proposed Production Facilities plan? SUBMIT

**Estimated Production Facilities description:** 

Production Facilities description: Ruby 2 Fed Com central tank battery

**Production Facilities map:** 

Ruby 2 Fed Com infrastructure sketch\_01-19-2017.pdf

Section 5 - Location and Types of Water Supply

Water Source Table

Well Name: RUBY 2 FED COM

Water source use type: OTHER

Describe type:

Source latitude:

Source datum:

Water source permit type: WATER RIGHT

Source land ownership: FEDERAL

Water source transport method: PIPELINE, TRUCKING

Source transportation land ownership: FEDERAL

Water source volume (barrels): 0

Source volume (gal): 0

Well Number: 705H

Water source type: RECYCLED

Source longitude:

Source volume (acre-feet): 0

Water source and transportation map:

Ruby 2 Fed Com Water Source and Caliche map\_01-19-2017.docx

Water source comments:

New water well? NO

New Water Well Info

Well latitude:	Well Longitude:	Well datum:
Well target aquifer:		
Est. depth to top of aquifer(ft):	Est thickness of aquife	er:
Aquifer comments:		
Aquifer documentation:		
Well depth (ft):	Well casing type:	
Well casing outside diameter (in.):	Well casing inside diame	eter (in.):
New water well casing?	Used casing source:	
Drilling method:	Drill material:	
Grout material:	Grout depth:	
Casing length (ft.):	Casing top depth (ft.):	
Well Production type:	<b>Completion Method:</b>	
Water well additional information:		

State appropriation permit:

Additional information attachment:

Well Name: RUBY 2 FED COM

Well Number: 705H

# **Section 6 - Construction Materials**

**Construction Materials description:** Caliche will be supplied from pits shown on the attached caliche source map. Caliche utilized for the drilling pad will be obtained either from an existing approved mineral pit, or by benching into a hill, which will allow the pad to be level with existing caliche from the cut, or extracted by "Flipping" the well location. A mineral material permit will be obtained from BLM prior to excavating any caliche on Federal Lands. Amount will vary for each pad. The procedure for "Flipping" a well location is as follows: \* -An adequate amount of topsoil/root zone (usually top 6 inches of soil) will be stripped from the proposed well location and stockpiled along the side of the well location as depicted on the well site diagram/survey plat. -An area will be used within the proposed well site dimensions to excavate caliche. Subsoil will be removed and stockpiled within the surveyed well pad dimensions. -Once caliche/surfacing mineral is found, the mineral material will be excavated and stock piled within the approved drilling pad dimensions. -Then, subsoil will be pushed back in the excavated hole and caliche will be spread accordingly across the entire well pad and road (if available). -Neither caliche, nor subsoil will be stock piled outside of the well pad dimensions. Topsoil will be stockpiled along the edge of the pad as depicted in the Well Site Layout or survey plat. \* In the event that no caliche is found onsite, caliche will be hauled in from a BLM approved caliche pit or other established mineral pit. A BLM mineral material permit will be acquired prior to obtaining any mineral material permit will be acquired prior to obtaining any mineral material from BLM pits or federal land.

**Construction Materials source location attachment:** 

Ruby 2 Fed Com Water Source and Caliche map\_01-19-2017.docx

# Section 7 - Methods for Handling Waste

#### Waste type: DRILLING

**Waste content description:** Drill fluids and produced oil and water from the well during drilling and completion operations will be stored safely and disposed of properly in an NMOCD approved disposal facility. Garbage and trash produced during drilling and completion operations will be collected in a trash container and disposed of properly. Human waste and grey water will be properly contained of and disposed of properly. After drilling and completion operations; trash, chemicals, salts, frac sand, and other waste material will be removed and disposed of properly at a state approved disposal facility. **Amount of waste:** 0 barrels

Waste disposal frequency : Daily

Safe containment description: Steel Tanks

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL Disposal location ownership: COMMERCIAL

FACILITY Disposal type description:

Disposal location description: Trucked to NMOCD approved disposal facility

**Reserve Pit** 

Reserve pit width (ft.)

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit?

Reserve pit length (ft.)

Reserve pit depth (ft.)

Reserve pit volume (cu. yd.)

Is at least 50% of the reserve pit in cut?

**Reserve pit liner** 

Well Name: RUBY 2 FED COM

Well Number: 705H

Reserve pit liner specifications and installation description

#### **Cuttings Area**

Cuttings Area being used? NO

Are you storing cuttings on location? YES

Description of cuttings location Closed Loop System. Drill cuttings will be disposed of into steel tanks and taken to an NMOCD approved disposal facility. Cuttings area length (ft.)

Cuttings area depth (ft.)

Cuttings area width (ft.)

Cuttings area volume (cu. yd.)

Is at least 50% of the cuttings area in cut?

WCuttings area liner

Cuttings area liner specifications and installation description

### Section 8 - Ancillary Facilities

Are you requesting any Ancillary Facilities?: NO

**Ancillary Facilities attachment:** 

Comments:

Section 9 - Well Site Layout

Well Site Layout Diagram:

RUBY2FEDCOM 705H well site 01-19-2017.pdf Ruby 2 Fed Com 705H\_padsite\_01-19-2017.pdf Ruby 2 Fed Com 705H rig layout 01-26-2017.pdf Comments: Exhibit 2A-Wellsite & Exhibit 2B-Padsite Rig Layout Exhibit 4

#### Section 10 - Plans for Surface Reclamation

Type of disturbance: NEW

**Recontouring attachment:** 

RUBY2FEDCOM 705H interim reclamation 01-19-2017.pdf

Drainage/Erosion control construction: Proper erosion control methods will be used on the area to control erosion, runoff, and siltation of the surrounding area.

Drainage/Erosion control reclamation: The interim reclamation will be monitored periodically to ensure that vegetation has reestablished and that erosion is controlled.

Wellpad long term disturbance (acres): 2.14876

Wellpad short term disturbance (acres): 4.387052

Operator Name: EOG RESOURCES INC		
Well Name: RUBY 2 FED COM	Well Number: 705H	
Access road long term disturbance (acres): 0.503581	Access road short term disturbance (acres): 0.503581	
Pipeline long term disturbance (acres): 0.4063361	Pipeline short term disturbance (acres): 0.67722684	
Other long term disturbance (acres): 0	Other short term disturbance (acres): 0	
Total long term disturbance: 3.0586772	Total short term disturbance: 5.5678596	

**Reconstruction method:** In areas planned for interim reclamation, all the surfacing material will be removed and returned to the original mineral pit or recycled to repair or build roads and well pads. Areas planned for interim reclamation will be recontoured to the original contour if feasible, or if not feasible, to an interim contour that blends with the surrounding topography as much as possible. Where applicable, the fill material of the well pad will be backfilled into the cut to bring the area back to the original contour. The interim cut and fill slopes prior to re-seeding will not be steeper than a 3:1 ratio, unless the adjacent native topography is steeper. Note: Constructed slopes may be much steeper during drilling, but will be recontoured to the above ratios during interim reclamation.

**Topsoil redistribution:** Topsoil will be evenly respread and aggressively revegetated over the entire disturbed area not needed for all-weather operations including cuts and fills. To seed the area, the proper BLM seed mixture, free of noxious weeds, will be used. Final seedbed preparation will consist of contour cultivating to a depth of 4 to 6 inches within 24 hours prior to seeding, dozer tracking, or other imprinting in order to break the soil crust and create seed germination micro-sites. **Soil treatment:** Re-seed according to BLM standards. All reclaimed areas will be monitored periodically to ensure that revegetation occurs, that the area is not redisturbed, and that erosion is controlled.

**Existing Vegetation at the well pad:** Grass, forbs, and small woody vegetation, such as mesquite will be excavated as the topsoil is removed. Large woody vegetation will be stripped and stored separately and respreads evenly on the site following topsoil respreading. Topsoil depth is defined as the top layer of soil that contains 80% of the roots. In areas to be heavily disturbed, the top 6 inches of soil material, will be stripped and stockpiled on the perimeter of the well location and along the perimeter of the access road to control run-on and run-off, to keep topsoil viable, and to make redistribution of topsoil more efficient during interim reclamation. Stockpiled topsoil should include vegetative material. Topsoil will be clearly segregated and stored separately from subsoils.

Existing Vegetation at the well pad attachment:

**Existing Vegetation Community at the road:** All disturbed areas, including roads, pipelines, pads, will be recontoured to the contour existing prior to the initial construction or a contour that blends indistinguishably with the surrounding landscape. Topsoil that was spread over the interim reclamation areas will be stockpiled prior to recontouring. The topsoil will be redistributed evenly over the entire disturbed site to ensure successful revegetation. **Existing Vegetation Community at the road attachment:** 

**Existing Vegetation Community at the pipeline:** All disturbed areas, including roads, pipelines, pads, will be recontoured to the contour existing prior to the initial construction or a contour that blends indistinguishably with the surrounding landscape. Topsoil that was spread over the interim reclamation areas will be stockpiled prior to recontouring. The topsoil will be redistributed evenly over the entire disturbed site to ensure successful revegetation. **Existing Vegetation Community at the pipeline attachment:** 

**Existing Vegetation Community at other disturbances:** All disturbed areas, including roads, pipelines, pads, will be recontoured to the contour existing prior to the initial construction or a contour that blends indistinguishably with the surrounding landscape. Topsoil that was spread over the interim reclamation areas will be stockpiled prior to recontouring. The topsoil will be redistributed evenly over the entire disturbed site to ensure successful revegetation. **Existing Vegetation Community at other disturbances attachment:** 

Non native seed used? NO

Non native seed description:

Seedling transplant description:

Will seedlings be transplanted for this project? NO

Seedling transplant description attachment:

Will seed be harvested for use in site reclamation? NO

Seed harvest description:

Well Name: RUBY 2 FED COM

Well Number: 705H

Seed harvest description attachment:

Seed Managemen	t	
Seed Table		
Seed type:		Seed source:
Seed name:		
Source name:		Source address:
Source phone:		
Seed cultivar:		
Seed use location:		
PLS pounds per acre:		Proposed seeding season:
Seed S	ummary	Total pounds/Acre:
Seed Type	Pounds/Acre	

#### Seed reclamation attachment:

## **Operator Contact/Responsible Official Contact Info**

First Name: Stan

Phone: (432)686-3689

Last Name: Wagner Email: stan\_wagner@eogresources.com

Seedbed prep:

Seed BMP:

Seed method:

Existing invasive species? NO

Existing invasive species treatment description:

Existing invasive species treatment attachment:

Weed treatment plan description: All reclaimed areas will be monitored periodically to ensure that revegetation occurs, that the area is not redisturbed, erosion is controlled, and free of noxious weeds. Weeds will be treated if found. Weed treatment plan attachment:

**Monitoring plan description:** Reclamation will be completed within 6 months of well plugging. All reclaimed areas will be monitored periodically to ensure that revegetation occurs, that the area is not redisturbed, erosion is controlled, and free of noxious weeds.

Monitoring plan attachment:

Success standards: N/A

Pit closure description: NA

Pit closure attachment:

Well Number: 705H

Section 11 - Surface Ownership

Disturbance type: WELL PAD Describe: Surface Owner: STATE GOVERNMENT Other surface owner description: BIA Local Office: BOR Local Office: COE Local Office: DOD Local Office: NPS Local Office: State Local Office: STATE OF NEW MEXICO Military Local Office: USFWS Local Office: USFS Region:

USFS Forest/Grassland:

**USFS Ranger District:** 

Fee Owner: Oliver KiehneFee Owner Address: P.O. Box 135 Orla, TX 79770Phone: (575)399-9281Email:Surface use plan certification: NOSurface use plan certification document:Surface access agreement or bond: AgreementSurface Access Agreement Need description: surface use agreementSurface Access Bond BLM or Forest Service:BLM Surface Access Bond number:

USFS Surface access bond number:

Well Name: RUBY 2 FED COM

Well Number: 705H

## Section 12 - Other Information

Right of Way needed? NO

Use APD as ROW?

ROW Type(s):

**ROW Applications** 

**SUPO Additional Information:** An onsite meeting was conducted 12/14/16. Poly lines are planned to transport water for operations. Will truck if necessary. See attached SUPO Plan. **Use a previously conducted onsite?** YES

Previous Onsite information: Onsite meeting conducted 12/14/16.

# **Other SUPO Attachment**

Ruby 2 Fed Com 705H\_SUPO\_01-19-2017.pdf RUBY2FEDCOM\_705H\_COMBINED\_01-26-2017.PDF ruby2fedcom705H\_signed C-102\_01-26-2017.pdf

PWD

Section 1 - General

Would you like to address long-term produced water disposal? NO

Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? NO

Operator Name: EOG RESOURCES INC Well Name: RUBY 2 FED COM

Well Number: 705H

**Produced Water Disposal (PWD) Location:** PWD surface owner: Lined pit PWD on or off channel: Lined pit PWD discharge volume (bbl/day): Lined pit specifications: Pit liner description: Pit liner manufacturers information: Precipitated solids disposal: Decribe precipitated solids disposal: Precipitated solids disposal permit: Lined pit precipitated solids disposal schedule: Lined pit precipitated solids disposal schedule attachment: Lined pit reclamation description: Lined pit reclamation attachment: Leak detection system description: Leak detection system attachment: Lined pit Monitor description: Lined pit Monitor attachment: Lined pit: do you have a reclamation bond for the pit? Is the reclamation bond a rider under the BLM bond? Lined pit bond number: Lined pit bond amount: Additional bond information attachment:

# Section 3 - Unlined Pits

Precipitated solids disposal permit:

Would you like to utilize Unlined Pit PWD options? NO

Produced Water Disposal (PWD) Location: PWD surface owner: Unlined pit PWD on or off channel: Unlined pit PWD discharge volume (bbl/day): Unlined pit specifications: Precipitated solids disposal: Decribe precipitated solids disposal:

PWD disturbance (acres):

Well Name: RUBY 2 FED COM

Well Number: 705H

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

**Unlined pit Monitor attachment:** 

Do you propose to put the produced water to beneficial use?

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

Does the produced water have an annual average Total Dissolved Solids (TDS) concentration equal to or less than that of the existing water to be protected?

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

Unlined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information attachment:

#### **Section 4 - Injection**

Would you like to utilize Injection PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

Injection well number:

Assigned injection well API number?

Injection well new surface disturbance (acres):

Minerals protection information:

**Mineral protection attachment:** 

**Underground Injection Control (UIC) Permit?** 

PWD disturbance (acres):

Injection well name: Injection well API number:

Well Name: RUBY 2 FED COM

UIC Permit attachment:

# Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? NO

Produced Water Disposal (PWD) Location: PWD surface owner: Surface discharge PWD discharge volume (bbl/day): Surface Discharge NPDES Permit? Surface Discharge NPDES Permit attachment: Surface Discharge site facilities information: Surface discharge site facilities map:

PWD disturbance (acres):

Section 6 - Other

Would you like to utilize Other PWD options? NO

Produced Water Disposal (PWD) Location: PWD surface owner: Other PWD discharge volume (bbl/day): Other PWD type description: Other PWD type attachment: Have other regulatory requirements been met? Other regulatory requirements attachment:

### Bond Info

## **Bond Information**

Federal/Indian APD: FED BLM Bond number: NM2308 BIA Bond number: Do you have a reclamation bond? NO Is the reclamation bond a rider under the BLM bond? Is the reclamation bond BLM or Forest Service? BLM reclamation bond number: Forest Service reclamation bond number: Forest Service reclamation bond attachment: Reclamation bond number: PWD disturbance (acres):

Well Number: 705H

Well Name: RUBY 2 FED COM

Well Number: 705H

#### Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information attachment:

#### **Operator Certification**

# **Operator Certification**

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

NAME: Stan Wagner

Title: Regulatory Specialsit

Street Address: 5509 Champions Drive

City: Midland

Phone: (432)686-3689

Email address: Stan\_Wagner@eogresources.com

State: TX

State: TX

## Field Representative

Representative Name: James Barwis

Street Address: 5509 Champions Drive

City: Midland

Phone: (432)425-1204

Email address: james\_barwis@eogresources.com

Payment Info

# Payment

APD Fee Payment Method:	BLM DIRECT
CBS Receipt number:	3752116

Signed on: 01/31/2017

**Zip:** 79702

Zip: 79706



United States Department of the Interior Bureau of Land Management Carlsbad Field Office

Refer to: 3160-3

HOBBS OC: AUG 2 3 2017 RECEIVED

To: AFM, Lands & Minerals, CFOFrom: Geologist, CFOSubject: Geologic Review of Application for Permit to Drill

Opera	tor: EOG Resour	ces Inc			۰ ۱۹۰۰ - ۲۰۰۰ - ۲۰۰۰ - ۲۰۰۰ - ۲۰۰۰ - ۲۰۰۰ - ۲۰۰۰ - ۲۰۰۰ - ۲۰۰۰ - ۲۰۰۰ - ۲۰۰۰ - ۲۰۰۰ - ۲۰۰۰ - ۲۰۰۰ - ۲۰۰۰ - ۲۰۰۰	
Well N	ame and Number:	RUBY 2	FED COM-705	Н		
Potash	: No					
Locati	on: SHL:220'/N.&	2185'/W. SH	EC002 T026S, R	R034E.(NENW)		
Count	y Lea	1	Lease Number:	NMNM66927	APD Received: 1-31-2017	7
Groun	d Level Elevation:	3295		Surface Geology:	Qe-Eolian deposits	
TVD:	12743	MD:	22759		BH Mud Weight: 11.5	
BHP:	7620	MASP:	4817			

## 1. Geologic Marker Tops (from reports on surrounding wells):

	Lea State JV 1 3002508500 T26S R34E Sec 2 330FSL 330FEL Elevation	PERRO GRANDE UT STRAWN FED #001 3002527359 T26S R35E Sec 6 1980FSL 1980FEL Elevation	PITCHBLENDE FEDERAL UNIT #002 3002527753 T25S R34E Sec 35 1980FSL 1980FEL Elevation	DEAN APQ FEDERAL #001 3002533656 T26S R34E Sec 3 2310FSL 2310FEL Elevation Depth 880	Proposed Well <u>RUBY 2 FED</u> <u>COM-705H</u> T026S, R034E.(NENWSEC002 220'/N.& 2185'/W Unit Elevation
Geologic Marker	Depth	Depth	Depth	1275	Estimated Depth
Rustler	970	1043	932	-	834
Top of Salt	-	1486	1365	5340	1320
Castile	2859	3515	3622	5386	3195
Lamar	5360	5339	5380	6370	5354
Bell Canyon	5403	5380	5430	7790	5386
Cherry Canyon	-	6335	6355	9457	6358
Brushy Canyon	-	7914	7890	10490	7810
Bone Spring Lime	-	9269	9360	11220	9469
1st BS Sand	-	10390	10450	11220	10489
2nd BS Sand	-	10911	11021	12130	11069
3rd BS Sand	-	12020	12080	12130	12044
Wolfcamp	<b>-</b> " <i>n</i>	12450	12520	12575	12455
Strawn	-	14014	14480	-	14494
Atoka	-	14767	14711	-	14749
Morrow	-	15755	15400	-	15455

- a. Fresh Water:
- 50

#### b. Fresh Water Remarks:

According to well data from the New Mexico Office of the State Engineer's Water Rights Reporting System, there are 13 water wells within a six-mile radius of the proposed project. Depth to water ranges from 50' to 230' with the deepest well drilled to 350'. BLM identified groundwater may also be encountered in the Magenta Dolomite Member of the Rustler Formation down to a depth of approximately 965'.

c. Water Basin:	Capitan Water Basin
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#### 3. Recommended Casing Setting Depth

a. Surface Casing Depth:	905
b. Intermediate Casing Depth:	11700
c. 2nd Interm. Casing Depth	

#### d. Casing Depth Remarks:

The operator proposes to set surface casing at 860':BLM proposes 905',adequately protect BLM identified Magenta Member Rustler Fm. groundwater. If salt is encountered set casing at least 25' above the salt. The operator proposes to set intermediate casing at 11,700' BLM accepts 3rd Bone Springs formation depth set point.

## 4. Geologic Hazards

a. Cave/Karst Occurance:	Low
b. Potential Cave/Karst Depth:	
c. Possible Water Flows:	Castile, Salado,
d. Possible Lost Circulation:	Rustler, Red Beds, Delaware,
e. Possible Abnormal Pressure:	NO
f. H2S within 1 mile:	NO
a U2C Dementer	

g. H2S Remarks:

Wells do NOT have recordings of elevated H2S above action levels for safety.

#### 5. Additional Remarks

NENW C

Geologist: Mark Lewis

Sign Off Date: 5-11-2017