Rulison Monitoring Results
Noble Energy Well BM 35-21D

Well: Gas production well, Battlement Mesa 35-21D, API # 05–045–12505. (Pad 35 is near the Rulison, CO, Site.)

Operator: Noble Energy, Incorporated

Sampler: U.S. Department of Energy, Office of Legacy Management, Grand Junction, CO.

Date of Sampling Event: 22 July 2008

Samples of produced water were collected from production well BM 35-21D. Location data for the surface collection point and the sample location are in Table 1. A description of the samples collected is in Table 2.

Table 1. Well BM 35-21D, API # 05–045–12505

		Sample Point Location							
Sample Point	Location	Sea Level elevation (feet)	Perforation interval (feet)	Distance (feet) from		Latitude (NAD 27)	Longitude (NAD 27)	Distance from GZ (miles)	Heading from GZ (deg)
				N-S section line	E-W section line				
Surface collection	NENW S35 T7S R95W	9,236.0	NA	798.63 FNL	2,117.81 FWL	39.398841	107.965945	1.069	W23.4ºS
Subsurface Location	NENW S35 T7S R95W	164.9	2,226.3	1,213.71 FNL	1,923.51 FWL	39.397704	107.966626	1.137	W26.2ºS

NA = not applicable
The sample location elevation is at the mid-point of the perforation zone.
Location data updated 22 July 2008.

The subsurface elevation is at the midpoint of the perforation interval.

Link to Colorado Oil and Gas Conservation Commission information about well BM 35-21D
http://oil-gas.state.co.us/cogis/FacilityDetail.asp?facid=04512505&type=WELL

Table 2. Sample Description

Sample Ticket No.	Location			Field Sample Matrix	Planned Analytes	Sample Vol. (L)	Comments
	Name	Type	Sub-type				
GIZ-717	BM 35-21D	TS	TINT	Water	3H, Cl^-	~0.75	Low sample flow during collection.

3H: tritium Cl^-: chloride

The water sample was submitted to Paragon Analytics in Fort Collins, Colorado for the determination of tritium and chloride. Due to a water-sample limitation, an adequate sample volume for high-resolution gamma analysis could not be collected. The results for gross alpha, gross beta, tritium, and chloride are listed in Table 3.

Table 3. Produced Water Results for Sample GIZ-717 (Paragon Analytics)

RESULTS REPORT
RIN: 08071731
Site: Rulison Site
Location: BM 35-21D
Ticket Number: GIZ 717
Report Date: 10/29/2008

Parameter	Units	Date Sampled	Date Analyzed	Result	Qualifier(s)	Uncertainty	Detection Limit	Method
GROSS ALPHA	pCi/L	07/22/2008	08/27/2008	107	J	38	43	724R10
GROSS BETA	pCi/L	07/22/2008	08/27/2008	445		88.7	78	724R10
H-3	pCi/L	07/22/2008	08/16/2008	-93.8	U	207	350	704R9
CHLORIDE	MG/L	07/22/2008	08/07/2008	14000			200	EPA300.0

LAB QUALIFIERS:

*	Replicate analysis not within control limits.
>	Result above upper detection limit.
A	TIC is a suspected aldol-condensation product.
B	Inorganic: Result is between the IDL and CRDL. Organic: Analyte also found in method blank.
C	Pesticide result confirmed by GC-MS.
D	Analyte determined in diluted sample.
E	Inorganic: Estimate value because of interference, see case narrative. Organic: Analyte exceeded calibration range of the GC-MS.
H	Holding time expired, value suspect.
I	Increased detection limit due to required dilution.
J	Estimated
N	Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compound (TIC).
P	> 25% difference in detected pesticide or Aroclor concentrations between 2 columns.
U	Analytical result below detection limit.
W	Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance.