

**Roca Honda Resources Response to Agency 7-10-2009 Comments
Of Roca Honda Project April 2009 SAP-MK025RN
October 16, 2009**

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, General Rev. April 2009			
Agency: MMD			Review Date: July 10, 2009
Item #	Section/Page (or general) Section 2	Topic	Comment
1.	General	Maps	<p>1. Please put elevations on contour lines. Please put elevations on plateaus, peaks, and proposed discharge points.</p> <p>2. Please label all monitoring wells and elevations on all maps.</p>
	RHR Response		Elevations have been added on contour lines, monitor wells, and proposed discharge points, where appropriate. Monitor well elevations have been put on all maps.
2.	General	Shape Files	Please provide shape files (GIS/GPS coordinates in UTM coordinates, NAD 83, Zone 13) for wells, arch sites, proposed mine foot print and lay-out(s), and all <u>existing</u> and proposed exploration boreholes.
	RHR Response		Appropriate shape files will be provided as part of the Baseline Data Report. This information is considered confidential and will be submitted pursuant to the protections provided under the law. It should be noted RHR is not currently using NAD83 UTM coordinates in most of its mapping. However, all shape files have a projection associated with them and project correctly into a UTM Layer. Point shape files can be given in UTM coordinates.

Section 1 Introduction

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 1 Rev. April 2009			
Reviewer: NMED SWQB Comments Agency: NMED			Review Date: May 29, 2009
Item #	Section/Page (or general) Section 2	Topic	Comment
3.	Section 1.2	Discharge water to surface watercourses	Section 1.2 does not indicate whether, where, or how much water would be discharged to surface watercourses. This is addressed elsewhere, but it should be clarified here (such as by indicating the arroyo to receive these waters
	RHR Response		Section 1.2 has been revised to include updated Figures 1-2, 1-3, 1-4 and 1-5. These figures provide additional detail of the planned surface disturbances at the Roca Honda permit area, including the location at which the treated mine water will be discharged. As indicated in paragraph three (3) on page 1-7 of the April 2009 SAP, RHR anticipates that it will treat (and, therefore, discharge) up to 8,000 gpm from mine dewatering activities and surface water run-off treated water. More details of the treatment and discharge of these waters will be included in the Mine Operations Plan submitted as part of the Mine Permit application and the Discharge Plan details submitted to the NMED in the near future.

Section 2 Meteorology and Air Quality

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 2 Rev. April 2009			
Reviewer: NMED SWQB Comments Agency: NMED			Review Date: May 29, 2009
Item #	Section/Page	Topic	Comment
1.	Section 2.1	Location of SOPs	SWQB was unable to locate the SOPs described in Section 2.1 and Appendix A.
	RHR Response		This comment appears to apply to Section 2.1 of the Field Quality Assurance Plan (FQAP) submitted with the SAP as Attachment 1 to the SAP. Appendix A referred to by the commenter appears to be of Attachment 1, i.e., the FQAP. This appendix is a list of field operating procedures for specific field sampling activities. As indicated in the narrative Section 2.1 of the FQAP, Appendix A is simply a list of the field SOPs. The FQAP is not intended to have the SOPs themselves.
2.	Section 2.5	Editorial—use of word “expedient”.	“The samples will be shipped via the most expedient means available.” A definition of “expedient” is “a means to an end; not necessarily a principled or ethical one”. Please substitute “expeditious”.
	RHR Response		RHR has revised the FQAP, page 2-5 to replace the word “expedient” to “expeditious” per commenter’s request.

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 2
Rev. April 2009

Reviewer: NMED SWQB Comments		Review Date: May 29, 2009	
Agency: NMED			
Item #	Section/Page	Topic	Comment
1.	General	Other Meteorological Data	Baseline meteorological data should include historical meteorological data collected for more than a one year from stations within the vicinity of the permit area. Data collected should have assurance that the instrumentation and data recorder meet the criteria of either NOAA or WRCC guidelines.
	RHR Response		NMAC §19.10.6.602 D.(13) provides that the detail required for environmental baseline information may vary depending on the location, size, scope and type of mining operations and site-specific characteristics. It provides, further, that data gathered or available to the applicant for other purposes, such as a site assessment previously submitted , may be used in part to meet the requirements of the Part. RHR intends to use a variety of sources for its meteorological data, including but not limited to data from the Western Regional Climate Center, data contained in the Gulf Mineral Resources Company Environmental Report prepared in support of its uranium mill license application of 1979, as well as the on-site data that it will generate. The data collected will have the appropriate instrumentation. The SAP has been revised to include a list of instrumentation in a new Table 2-3.
2.	Sections 2.4.2 and 2.4.3	Radon Detectors	The collection and methodology for radiation data described in Sections 2.4.2 and 2.4.3 need to be moved to Section 10.
	RHR Response		The data to be gathered pursuant to these subsections for radon and gamma is more appropriately categorized as ambient or background air quality data as compared to that to be gathered as described in Section 10 of the SAP. Section 10 describes the types of soils surveys to be performed in order to characterize the background condition of soils potentially impacted by proposed activities. RHR recommends that characterization of these parameters remain in Section 2.0 of the SAP. Also, please note that comment is a repeat of comment No. 1 on page 11 of table of comments provided by NM MMD to RHR.
3.	Section 2.1	Precipitation	It needs to be stated that the meteorological data collected will include average daily

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 2 Rev. April 2009			
Reviewer: NMED SWQB Comments Agency: NMED		Review Date: May 29, 2009	
Item #	Section/Page	Topic	Comment
			<p>and annual daily precipitation, standard deviations, highs, lows, and years and times when these measurements were or will be taken. This provides a background as to time-frame of (and expected and outlier values) for extremes, highs, lows, and daily and seasonal averages.</p> <p>Also, seasonal averages and extremes within the vicinity should be obtained via NOAA and WRCC data sets to corroborate local meteorological and assess differences between local and regional data.</p> <p>NOAA data may be downloaded at the following site http://www.weather.gov/climate/xmacis.php?wfo=abq WRRC data may be downloaded at the following site http://www.wrcc.dri.edu/</p>
	RHR Response		<p>RHR has revised the SAP to provide a better description of the data to be gathered. Specifically, Section 2.4 has been modified to address the commenter's concerns. Seasonal averages and extremes will be included in the Baseline Data Report and will be augmented with data from the San Mateo weather station which was in operation for 70 years. Also, please note that this comment is a repeat of comment No. 2 on page 11 of NM MMD's comments provided to RHR.</p>
4.	Section 2.1	Pan Evaporation values needed	<p>In order to get an estimate of expected evaporation in the Roca Honda area, the parameter used should be 'pan evaporation'. Pan evaporation integrates evaporation affected by temperature, humidity, solar radiation (which can be affected by air particulates), and wind. For the southwest there are months when pan evaporation is very high, accounting for most of the annual pan evaporation. If there are no pan evaporation measurements within the vicinity of the proposed site, then a 'Class A' pan evaporation needs to be installed as part of your suite of meteorological station instruments.</p>

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 2
Rev. April 2009

Reviewer: NMED SWQB Comments		Review Date: May 29, 2009	
Agency: NMED			
Item #	Section/Page	Topic	Comment
			Because pan evaporation rates are actually generally higher than what is achieved in natural evaporative environments, standard practice is to use between 50% and 70% of the pan evaporation rate for design of retention facilities. Additionally, what is needed is to apply reference evaporation rates based on geographic similarities.
	RHR Response		Currently there is no pan evaporation monitoring on site. A pan evaporation monitoring station will be installed as part of the Roca Honda meteorological station in the spring when pan evaporation rates can be monitored. Section 2.1 of the SAP has been revised to provide a better discussion of historic evaporation data, including recognition of two pan evaporation monitoring locations in the area, whose data will also be used to develop baseline data for the site. Also, please note that this comment is a repeat of comment No. 4 on page 11 of NM MMD's comments provided to RHR.
5.	Section 2.1	Wind-speed	Background information for wind-speed information should be cited. The wind-speed data to be collected needs to provide the high, low, average daily values and principle directions. This provides a background as to time-of-day and season when expected and directional extremes will occur.
	RHR Response		As indicated in RHR's response to comment No. 3 above, RHR has revised the SAP to provide a better description of the data to be gathered. Specifically, Section 2.4 has been modified to address the commenter's concerns. Wind speed and direction will be collected on an hourly basis and daily data is available. Also, please note that this comment is a repeat of comment No. 5 on page 11 of NM MMD's comments provided to RHR.
6.	Section 2.1	Air quality	In the background information please provide what is meant by EPA's classification of the area as an 'attainment' area.
	RHR Response		The Clean Air Act of 1990 required EPA to set National Ambient Air Quality

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 2
Rev. April 2009

Reviewer: NMED SWQB Comments		Review Date: May 29, 2009	
Agency: NMED			
Item #	Section/Page	Topic	Comment
			Standards for pollutants considered harmful to public health and the environment. Primary and secondary standards were set for six criteria pollutants. An "attainment area", for any of the air pollutants, is an area which is shown by monitored data or which is calculated by air quality modeling not to exceed the ambient air quality standard for such pollutant. This clarification has been added to the last paragraph in Section 2.1 of the revised SAP. Also, please note that this comment is a repeat of comment No. 6 on page 11 of NM MMD's comments provided to RHR.
7.	Section 2.2	Sampling Objectives	<ol style="list-style-type: none"> 1. In the meteorological section the obvious sampling objective is to collect relevant and accurate <u>baseline</u> meteorological data, temperature, precipitation, wind-speed, RH, etc. . This is not stated in the sampling objective; please include these parameters in your sampling objectives. 2. Background radiological conditions - The radiological discussion and sampling protocols need to be moved to Section 10, <i>Radiological Survey Plan</i>.
	RHR Response		Section 2.2 of the SAP has been revised to clearly identify the objective of collecting baseline meteorological data. With regard to background radiological conditions, as stated above, RHR believes that the data to be gathered for radon and gamma is more appropriately categorized as ambient or background air quality data as compared to that to be gathered as described in Section 10 of the SAP. As such, RHR recommends that the characterization of these parameters remain in Section 2.0 of the SAP. Please note that this comment is a repeat of comment No. 7 on page 11 of NM MMD's comments provided to RHR.
8.	Section 2.3	'Data needs'	In the first sentence you cite, ' <i>data needs were identified for meteorology data (Baseline Data Summary, Section 2.0, and "Climatology")</i> '. There is no such section in this report. Please correct.
	RHR Response		Section 2.3, Page 2-2 of the SAP has been revised to correct this oversight. The phrase quoted by the commenter was a vestige of the older version of the SAP submitted to NM MMD in November 2008. Also, please note that this comment is a

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 2
Rev. April 2009

Reviewer: NMED SWQB Comments		Review Date: May 29, 2009	
Agency: NMED			
Item #	Section/Page	Topic	Comment
			repeat of comment No. 8 on page 12 of NM MMD's comments provided to RHR.
9.	Section 2.4	Methods of Collection	<p>As stated in EPA 2000 (see references at the end of this section), the user should acquire enough meteorological data and at discrete time intervals to ensure worst-case meteorological conditions are adequately represented. It is these worse case scenarios that can cause maximal impacts on topography, vegetation, and air quality.</p> <p>Meteorological stations should be set-up meeting NOAA's SOP. Additionally, per standard NOAA data collection methodology, all meteorological data should be collected in 15-minute intervals.</p>
	RHR Response		<p>RHR has revised the SAP to provide a better description of the data to be gathered. Section 2.4 has been modified to address the commenter's concerns. NMAC §19.10.6.602 D.(13) (a), BASELINE DATA, requires a description of the climatological factors representative of the permit area. RHR is confident that the methods of collection described in the SAP are sufficient to meet this requirement. Also, please note that this comment is a repeat of comment No. 10 on page 12 of NM MMD's comments provided to RHR.</p>
10.	Section 2.4	Air Quality Monitoring	<p>The passage '<i>Data from the Gulf Mt. Taylor Environmental Report (1979-drafted for the proposed uranium mill) indicated ambient particulate matter in the San Mateo Valley above ambient standards. Radiological data results were not reported and the trace metals were below limits.</i>' needs a citable reference.</p> <p>This information needs to be included in Section 13.</p>
	RHR Response		<p>Section 2.4, page 2-4 has been revised to provide the following citation; Gulf Mineral Resources Company, Uranium Mill License Application, Environmental Report, Amendment 1, March 1979. With regard to the comment that the information needs to be included in Section 13 of the SAP, Section 13 is a simply an</p>

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 2
Rev. April 2009

Reviewer: NMED SWQB Comments		Review Date: May 29, 2009	
Agency: NMED			
Item #	Section/Page	Topic	Comment
			identification of prior mining operations. Also, please note that this comment is a repeat of comment No. 11 on page 12 of NM MMD's comments provided to RHR.
11.	Section 2.4	Air Quality Monitoring	The Hi-Vol sampler installation locations and calibration needs to be part of this SAP. Please include.
	RHR Response		Section 2.4, Methods of Collection, at the bottom of Page 2-2 and Figure 2-1 identify the location of the sampler. Section 2.6 of the SAP indicates that the proposed Hi-Vol sampler will be located as shown on Figure 2-1. The calibration information is given in Section 2.8.2.1, Sampler Calibration and Flow Checks. Also, please note that this comment is a repeat of comment No. 12 on page 13 of NM MMD's comments provided to RHR.
12.	Section 2.4.1	Air Particle Pump	Suspended air particles data needs to be identified as one of the parameters to be collected in Table 2-1.
	RHR Response		Table 2-1 of the SAP has been revised to identify suspended particulates as a parameter to be collected. Also, please note that this comment is a repeat of comment No. 13 on page 13 of NM MMD's comments provided to RHR.
13.	Section 2.4.3	Use of TLD and placement	<p><u>(Note, the Thermoluminescent Dosimeters (TLDs) information needs to needs to also be addressed in Section 10</u></p> <p>TLD detectors located at ~1-m above ground level are meant to monitor 'exposure' at chest level of alpha emitting radiation. Because there has been past uranium mining in the area, and the area has high NORM values, there may be elevated radiation due to erosional or wind-born NORM or TENORM material. To assure you have pre-mining baseline and background radon levels measured RHR needs have radon detectors located at the planned waste-rock storage locations, ore storage facilities, vents, shafts, canyon apexes, stream banks downstream from the mining, sites of existing exploration boreholes, locations where mine water is discharged. Therefore numerous TLDs need to be placed around the site.</p>

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 2
Rev. April 2009

Reviewer: NMED SWQB Comments		Review Date: May 29, 2009	
Agency: NMED			
Item #	Section/Page	Topic	Comment
	RHR Response		<p>Please see RHR response to comment No. 2 regarding radon detectors. As to the commenter's concerns regarding past uranium mining in the area, the permit area has not experienced any past uranium mining. The commenter's assertion that "the area has high NORM values" is without basis, as is the conclusion that "there may be elevated radiation due to erosional or windblown NORM or TENORM material." The commenter's concerns notwithstanding, if there was any NORM or TENORM, i.e. naturally occurring radioactive material or technically enhanced naturally occurring radioactive material, in the area, it is by definition background. The radiation surveys identified in Section 10 of the SAP are designed for the specific purpose of characterizing background radiological values. RHR will add a monitoring location in Section 9, near future vents, in Section 10, near the facility footprint, and one in Section 16 on the east side of the section to provide additional background locations. Section 2.4.3 (now numbered 2.4.2.5 in the revised SAP) has been modified to reflect this change. Also, please note that this comment is a repeat of comment No. 14 on page 13 of NM MMD's comments provided to RHR.</p>
14.	Section 2.4.2	Radon Detectors	<p><u>(Note, the information on radon TLD detectors needs to also be addressed in Section 10</u></p> <p>Because there has been past uranium mining in the area, there may be elevated radiation due to erosional or wind-born NORM or TENORM material. In order to evaluate baseline alpha radiation, alpha-emitting radiation needs to be measured <u>at ground level</u> throughout the site. Therefore, RHR needs take baseline measurements of alpha radiation using air- or gas-proportional detectors. Measurements need to be taken at the planned waste-rock storage locations, ore storage facilities, vents, shafts, canyon apexes, stream banks downstream from the mining, sites of existing exploration boreholes, and locations where mine water is discharged. The intention is to detect whether the RHR mining activity has introduced elevated values of alpha emitting particles to the surface when similar</p>

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 2
Rev. April 2009

Reviewer: NMED SWQB Comments		Review Date: May 29, 2009	
Agency: NMED			
Item #	Section/Page	Topic	Comment
			measurements are taken during and after mining ceases.
	RHR Response		<p>Please see RHR's response to comment No. 13 above. As discussed above, there is no historical or operational basis to expect TENORM material to be found in the permit area. Any NORM material encountered is likely to consist of rock or sediment containing trace amounts of uranium and its progeny. Alpha emitting radionuclides are assumed to be in equilibrium with uranium and radium, thus the gamma surveys are superior to alpha surveys in terms of detection levels. This is largely due to the very low source and detector efficiency associated with alpha radiation in porous materials. The commenter's proposed use of air or gas-proportional detectors is an inappropriate application for determining background radiological conditions at the permit area. Also, please note that this comment is a repeat of comment No. 15 on page 13 of NM MMD's comments provided to RHR.</p>
15.	Sections 2.4.2 and 2.4.3	Radon Detectors	The text describing the installation of the alpha and gamma dosimeters needs to be put in a separate QA/QC procedural section. (Again, all of text on radiation needs to be moved to section 10.)
	RHR Response		<p>RHR has detailed QA/QC procedures on instrumentation selection, calibration, and use. Also, please note that this comment is a repeat of comment No. 16 on page 13 of NM MMD's comments provided to RHR.</p>
16.	Section 2.8.1	Meteorological Station – Instrument ranges and sensitivities	There are no instrument specifications, operating ranges and sensitivities in this section. Please include.
	RHR Response		<p>Table 2-3 in the revised SAP provides the specifications for the Roca Honda Meteorological Station. Also, please note that his comment is a repeat of comment No. 17 on page 13 of NM MMD's May 29 comments provided to RHR on July 10.</p>
17.	Section 2.8.1	Meteorological Station - units	To be 'defensible' and consistent with other sanctioned weather station data, the meteorological data needs to be collected, verified, and monitored per NOAA

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 2
Rev. April 2009

Reviewer: NMED SWQB Comments		Review Date: May 29, 2009																																																									
Agency: NMED																																																											
Item #	Section/Page	Topic	Comment																																																								
			<p>sanctioned guidelines. Standardized SI units for recording data need to be specified as listed below.</p> <table> <tr> <th>Parameter</th><th>Short Name</th><th>Units</th><th>Format</th></tr> <tr> <td>(1) DateTimeStamp</td><td>DateTimeStamp</td><td>m/d/yyyy h:mm</td><td></td></tr> <tr> <td>(2) Record</td><td>Record</td><td></td><td></td></tr> <tr> <td>(3) Average Air Temperature</td><td>ATemp</td><td>°C</td><td>00.0</td></tr> <tr> <td>(4) Average Relative Humidity</td><td>RH</td><td>%</td><td>000</td></tr> <tr> <td>(5) Average Barometric Pressure</td><td>BP</td><td>mb</td><td>0000</td></tr> <tr> <td>(6) Average Wind Speed</td><td>WSpd</td><td>m/s</td><td>00.0</td></tr> <tr> <td>(7) Average Wind Direction</td><td>Wdir</td><td>°</td><td>000</td></tr> <tr> <td>(8) Maximum Wind Speed</td><td>MaxWspd</td><td>m/s</td><td>00.0</td></tr> <tr> <td>(9) Maximum Wind Speed Time</td><td>MaxWspdT</td><td>hh:mm</td><td>hh:mm</td></tr> <tr> <td>(10) Wind Direction Standard Deviation</td><td>SDWDir</td><td>sd</td><td>000</td></tr> <tr> <td>(11) Total Precipitation (recorded in 15 minute intervals)</td><td>TotPrcp</td><td>mm</td><td>00.0</td></tr> <tr> <td>(12) Average Battery Voltage</td><td>AvgVolt</td><td>volts</td><td>00.0</td></tr> <tr> <td>(13) Cumulative Precipitation (24 hour period)</td><td>CumPrcp</td><td>mm</td><td>00.0</td></tr> </table>	Parameter	Short Name	Units	Format	(1) DateTimeStamp	DateTimeStamp	m/d/yyyy h:mm		(2) Record	Record			(3) Average Air Temperature	ATemp	°C	00.0	(4) Average Relative Humidity	RH	%	000	(5) Average Barometric Pressure	BP	mb	0000	(6) Average Wind Speed	WSpd	m/s	00.0	(7) Average Wind Direction	Wdir	°	000	(8) Maximum Wind Speed	MaxWspd	m/s	00.0	(9) Maximum Wind Speed Time	MaxWspdT	hh:mm	hh:mm	(10) Wind Direction Standard Deviation	SDWDir	sd	000	(11) Total Precipitation (recorded in 15 minute intervals)	TotPrcp	mm	00.0	(12) Average Battery Voltage	AvgVolt	volts	00.0	(13) Cumulative Precipitation (24 hour period)	CumPrcp	mm	00.0
Parameter	Short Name	Units	Format																																																								
(1) DateTimeStamp	DateTimeStamp	m/d/yyyy h:mm																																																									
(2) Record	Record																																																										
(3) Average Air Temperature	ATemp	°C	00.0																																																								
(4) Average Relative Humidity	RH	%	000																																																								
(5) Average Barometric Pressure	BP	mb	0000																																																								
(6) Average Wind Speed	WSpd	m/s	00.0																																																								
(7) Average Wind Direction	Wdir	°	000																																																								
(8) Maximum Wind Speed	MaxWspd	m/s	00.0																																																								
(9) Maximum Wind Speed Time	MaxWspdT	hh:mm	hh:mm																																																								
(10) Wind Direction Standard Deviation	SDWDir	sd	000																																																								
(11) Total Precipitation (recorded in 15 minute intervals)	TotPrcp	mm	00.0																																																								
(12) Average Battery Voltage	AvgVolt	volts	00.0																																																								
(13) Cumulative Precipitation (24 hour period)	CumPrcp	mm	00.0																																																								
	RHR Response		<p>Section 2.0 of the SAP has been revised to indicate that the meteorological station data will be collected and reported in the Baseline Data Report in accordance with the appropriate standards. Also, please note that this comment is a repeat of comment No. 18 on page 13 of NM MMD's comments provided to RHR.</p>																																																								
18.	Section 2.8.1	Meteorological	General – The plan needs to specifically state all the required QA/QC checks (item by																																																								

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 2 Rev. April 2009			
Reviewer: NMED SWQB Comments Agency: NMED		Review Date: May 29, 2009	
Item #	Section/Page	Topic	Comment
		Station – general	item) are performed per the <i>Campbell Scientific</i> CR1000 standard operating procedures (SOP) for the Meteorological Monitoring Station.
	RHR Response		The meteorological station and datalogger were installed and programmed by a trained contractor on behalf of RHR. The Campbell Scientific CR1000 was installed and programmed in accordance with manufactures guidelines. It was calibrated by the manufacturer and was received with a calibration certificate. Calibration is performed by the manufacturer once every two years. The scheduled calibration is in November 2009. NO additional SOPs or QA/QC checks exist for this piece of equipment according to the manufacturer. The instrument instruction manual can be downloaded and reviewed by the commenter at the Campbell Scientific web site at http://www.campbellsci.com/documents/manuals/cr1000.pdf . Also, please note that this comment is a repeat of comment No. 19 on page 14 of NM MMD's comments provided to RHR.
19.	Section 2.8.1	Meteorological Station – wind-speed	Measuring wind-speed –There should be assurance that common data collection errors are avoided. <u>It should be stated</u> that a weekly orientation check is performed to ensure the wind speed indicator is always pointing true north. Where is the anemometer located above the ground surface, 2-, 5-, or 10-m? The plan must specify the location.
	RHR Response		An orientation check will be performed when data is collected, currently every two weeks. RHR believes that this is sufficient to ensure common data collection error of concern to the commenter. The anemometer is located 3 meters above the ground surface as indicated in Section 2.4.1.2 of the revised SAP. Also, please note that this comment is a repeat of comment No. 20 on page 14 of NM MMD's

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 2
Rev. April 2009

Reviewer: NMED SWQB Comments		Review Date: May 29, 2009	
Agency: NMED			
Item #	Section/Page	Topic	Comment
			comments provided to RHR.
20.	Section 2.8.1	Meteorological Station –	<p>Measuring Precipitation - There should be assurance that common data collection errors are avoided.</p> <p><u>It should be stated that</u> the tipping bucket rain gauges are functioning properly. (These tend to jam up. Common problems arise due to roosting birds ‘tampering’ with the instrument causing it to clog, get stuck, or become off-balance.) A weekly check for these types of malfunctions needs to be specified in the SOP. RHR states they are using a Campbell Scientific meteorological station.</p>
	RHR Response		<p>A maintenance schedule and details concerning setup for the tipping bucket is provided in Section 2.4.1.4 of the revised SAP. A filter on the Rain Gauge is provided to prevent material from clogging the tipping bucket. RHR believes that this is sufficient to ensure common data collection error of concern to the commenter. Also, please note that this comment is a repeat of comment No. 21 on page 14 of NM MMD’s comments provided to RHR.</p>
21.	2.10	EPA references	The EPA 2007 references are not adequately identified. Please provide a full citation in the reference section.
	RHR Response		<p>The EPA 2007a reference has been revised as follows; www.epa.gov/air/oagps/greenbk/mapnmpoll.html. The EPA 2007b reference has been replaced with the following reference; www.nmenv.state.nm.us/aqb/modeling/documents/nm_class1areas_map.pdf. Also, please note that this comment is a repeat of comment No. 22 on page 15 of NM MMD’s comments provided to RHR.</p>
	References: EPA, 2000. Meteorological Monitoring Guidance for Regulatory Modeling Applications EPA-454/R-99-005.		

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 2
Rev. April 2009

Agency: MMD			Review Date
Item #	Section/Page	Topic	Comment
1.	Section 2.4.2 and 2.4.3	Measurement of alpha radiation	The collection and methodology for radiation data described in Sections 2.4.2 and 2.4.3 need to be moved to Section 10.
	RHR Response		This comment is a repeat of comment No. 2 on page 5 of NM MMD's comments provided to RHR in July. Please see RHR Response to comment No. 2, page 4 of this submittal.
2.	Section 2.1	Precipitation	It needs to be stated that the meteorological data collected will include average daily and annual daily precipitation, standard deviations, highs, lows, and years and times when these measurements were or will be taken. This provides a background as to time-frame of (and expected and outlier values) for extremes, highs, lows, and daily and seasonal averages.
	RHR Response		This comment is a repeat of comment No. 3 on page 5 of NM MMD's comments provided to RHR in July. Please see RHR Response to comment No. 3, page 4 of this submittal.
3.	Section 2.1	Lake evaporation not appropriate for arid environment	The value of a 'lake evaporation' cited for typical evaporation values in this area is not appropriate. Lake evaporation measurements are interrelated with, and affected by, the large water body of the 'lake'. The lake, or large water body, will affect the parameter values that go into a 'lake evaporation' measurement and can be extremely different than what controls evaporation in arid environments (such as Roca Honda). Inputs to lake evaporation, such as relative humidity, the heat storage capacity of a large water body (which includes depth, turbidity, surface area) and the outgoing short- and long-wave radiation (also affected by large water bodies) and air temperature just above the water surface, wind (both affected by the lake surface area and depth) are very different than that in an arid environment. Please take out any reference to lake evaporation values
	RHR Response		RHR agrees with the commenter. Section 2.1 of the SAP has been revised to discuss historic pan evaporation data and include a pan evaporation monitoring station.
4.	Section 2.1	Pan Evaporation values needed	In order to get an estimate of expected evaporation in the Roca Honda area, the parameter used should be 'pan evaporation'. Pan evaporation integrates evaporation affected by temperature, humidity, solar radiation (which can be affected by air particulates), and wind. For the southwest there are months when pan evaporation is very high, accounting for most of

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 2
Rev. April 2009

Agency: MMD			Review Date
Item #	Section/Page	Topic	Comment
			the annual pan evaporation. If there are no pan evaporation measurements within the vicinity of the proposed site, then a 'Class A' pan evaporation needs to be installed as part of your suite of meteorological station instruments.
	RHR Response		This comment is a repeat of comment No. 4 on page 5 of NM MMD's comments provided to RHR in July. Please see RHR Response to comment No. 4, page 5 of this submittal.
5.	Section 2.1	Wind-speed	Background information for wind-speed information should be cited. The wind-speed data to be collected needs to provide the high, low, average daily values and principle directions. This provides a background as to time-of-day and season when expected and directional extremes will occur.
	RHR Response		This comment is a repeat of comment No. 5 on page 6 of NM MMD's comments provided to RHR in July. Please see RHR Response to comment No. 5, page 6 of this submittal.
6.	Section 2.1	Air quality	In the background information please provide what is meant by EPA's classification of the area as an 'attainment' area.
	RHR Response		This comment is a repeat of comment No. 6 on page 6 of NM MMD's comments provided to RHR in July. Please see RHR Response to comment No. 6, page 6 of this submittal.
7.	Section 2.2	Sampling Objectives	3. In the meteorological section the obvious sampling objective is to collect meteorological data, temperature, precipitation, wind-speed, RH, etc. . This is not stated in the sampling objective; please include these parameters in your sampling objectives. 4. Background radiological conditions - The radiological discussion and sampling protocols need to be moved to Section 10, <i>Radiological Survey Plan</i> .
	RHR Response		This comment is a repeat of comment No. 7 on page 6 of NM MMD's comments provided to RHR in July. Please see RHR Response to comment No. 7, page 7 of this submittal.
8.	Section 2.3	'Data needs'	In the first sentence you cite, ' <i>data needs were identified for meteorology data (Baseline Data Summary, Section 2.0, and "Climatology")</i> '. There is no such section in this report. Please correct.
	RHR Response		This comment is a repeat of comment No. 8 on page 6 of NM MMD's comments provided to

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 2
Rev. April 2009

Agency: MMD			Review Date
Item #	Section/Page	Topic	Comment
			RHR in July. Please see RHR Response to comment No. 8, page 7 of this submittal.
9.	Section 2.4	Location of met stations.	Due to the variability in topography and land orientation there will be multiple and variable micro-climates in the proposed mining area. This variability will affect transport of dust, dust collection and dust accumulation points. Depending on orientation and area (i.e., north or south facing slopes, within a small canyon or open mesa) there will be variable diurnal wind speed and direction and temperatures and relatively high or low pan evaporation within the mine site. Therefore, there needs to be more than one meteorological station installed to collect site-wide meteorological variability. A meteorological station, or a 'mini'- stations, should be installed on high ridges, north facing and south facing valleys and coves, open lower and upper plateaus, proposed haul roads, along the flatter areas of the stream banks.
	RHR Response		RHR agrees that there may be various micro-climates in the permit area. However, their possible presence is not sufficient justification for requiring micro-baseline characterization of each micro-climate that may exist. The differences in meteorological conditions between the proposed facility locations in the three sections of the permit area are not likely to be so significant that they result in significantly different micro-impacts that require micro-design considerations. The facilities in Sections 9, 10 and 16 are at approximately the same elevation, i.e., 7200 ft. within a radius or approximately one mile. Meteorological conditions on a macros-scale at any location on the permit area site will likely be virtually identical. RHR believes that one meteorological station located on-site together with the large historical meteorological database available for the area is sufficient for determining background conditions.
10.	Section 2.4	Methods of Collection	As stated in EPA 2000, the user should acquire enough meteorological data and at discrete time intervals to ensure worst-case meteorological conditions are adequately represented. It is these worse case scenarios that can cause maximal impacts on topography, vegetation, and air quality. Meteorological stations should be set-up meeting NOAA's SOP. Additionally, per standard NOAA data collection methodology, all meteorological data should be collected in 15-minute

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 2
Rev. April 2009

Agency: MMD			Review Date
Item #	Section/Page	Topic	Comment
			intervals.
	RHR Response		This comment is a repeat of comment No. 9 on page 6 of NM MMD's comments provided to RHR in July. Please see RHR Response to comment No. 9, page 8 of this submittal.
11.	Section 2.4	Air Quality Monitoring	The passage ' <i>Data from the Gulf Mt. Taylor Environmental Report (1979-drafted for the proposed uranium mill) indicated ambient particulate matter in the San Mateo Valley above ambient standards. Radiological data results were not reported and the trace metals were below limits.</i> ' needs a citable reference. This information needs to be included in Section 13..
	RHR Response		This comment is a repeat of comment No. 10 on page 7 of NM MMD's comments provided to RHR in July. Please see RHR Response to comment No. 10, page 8 of this submittal.
12.	Section 2.4	Air Quality Monitoring	The Hi-Vol sampler installation locations and calibration needs to be part of this SAP. Please include.
	RHR Response		This comment is a repeat of comment No. 11 on page 7 of NM MMD's comments provided to RHR in July. Please see RHR Response to comment No. 11, page 9 of this submittal.
13.	Section 2.4.1	Air Particle Pump	Suspended air particles data needs to be identified as one of the parameters to be collected in Table 2-1.
	RHR Response		This comment is a repeat of comment No. 12 on page 7 of NM MMD's comments provided to RHR in July. Please see RHR Response to comment No. 12, page 9 of this submittal.
14.	Section 2.4.2	Use of TLD and placement	<u>Note, the Thermoluminescent Dosimeters (TLDs) information needs to needs to also be addressed in Section 10</u>
	RHR Response		This comment is a repeat of comment No. 13 on page 7 of NM MMD's comments provided to RHR in July. Please see RHR Response to comment No. 13, page 9 of this submittal.
15.	Section 2.4.2	Radon Detectors	<u>Note, the information on radon detectors needs to also be addressed in Section 10</u>
	RHR Response		This comment is a repeat of comment No. 14 on page 8 of NM MMD's comments provided to RHR in July. Please see RHR Response to comment No. 14, page 10 of this submittal.
16.	Sections 2.4.2	Radon Detectors	The text describing the installation of the alpha and gamma dosimeters needs to be put in a

October 2009

RHR Response to NM MMD Compilation of Agency Reviews for the Roca Honda April 2009 SAP
This document should be reviewed in conjunction with RHR's October 2009-Rev 2 SAP

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 2
Rev. April 2009

Agency: MMD			Review Date																																								
Item #	Section/Page	Topic	Comment																																								
	and 2.4.3		separate QA/QC procedural section. (Again, all of text on radiation needs to be moved to section 10.)																																								
	RHR Response		This comment is a repeat of comment No. 15 on page 8 of NM MMD's comments provided to RHR in July. Please see RHR Response to comment No. 15, page 11 of this submittal.																																								
17.	Section 2.8.1	Meteorological Station – Instrument ranges and sensitivities	There are no instrument specifications, operating ranges and sensitivities in this section. Please include.																																								
	RHR Response		This comment is a repeat of comment No. 16 on page 8 of NM MMD's comments provided to RHR in July. Please see RHR Response to comment No. 16, page 11 of this submittal.																																								
18.	Section 2.8.1	Meteorological Station - units	<p>To be 'defensible' and consistent with other sanctioned weather station data, the meteorological data needs to be collected, verified, and monitored per NOAA sanctioned guidelines. Standardized SI units for recording data need to be specified as listed below.</p> <table> <tr> <th>Parameter</th><th>Short Name</th><th>Units</th><th>Format</th></tr> <tr> <td>(14) DateTimeStamp</td><td>DateTimeStamp</td><td>m/d/yyyy h:mm</td><td></td></tr> <tr> <td>(15) Record</td><td>Record</td><td></td><td></td></tr> <tr> <td>(16) Average Air Temperature</td><td>ATemp</td><td>°C</td><td>00.0</td></tr> <tr> <td>(17) Average Relative Humidity</td><td>RH</td><td>%</td><td>000</td></tr> <tr> <td>(18) Average Barometric Pressure</td><td>BP</td><td>mb</td><td>0000</td></tr> <tr> <td>(19) Average Wind Speed</td><td>WSpd</td><td>m/s</td><td>00.0</td></tr> <tr> <td>(20) Average Wind Direction</td><td>Wdir</td><td>°</td><td>000</td></tr> <tr> <td>(21) Maximum Wind Speed</td><td>MaxWspd</td><td>m/s</td><td>00.0</td></tr> <tr> <td>(22) Maximum Wind Speed Time</td><td>MaxWspdT</td><td>hh:mm</td><td>hh:mm</td></tr> </table>	Parameter	Short Name	Units	Format	(14) DateTimeStamp	DateTimeStamp	m/d/yyyy h:mm		(15) Record	Record			(16) Average Air Temperature	ATemp	°C	00.0	(17) Average Relative Humidity	RH	%	000	(18) Average Barometric Pressure	BP	mb	0000	(19) Average Wind Speed	WSpd	m/s	00.0	(20) Average Wind Direction	Wdir	°	000	(21) Maximum Wind Speed	MaxWspd	m/s	00.0	(22) Maximum Wind Speed Time	MaxWspdT	hh:mm	hh:mm
Parameter	Short Name	Units	Format																																								
(14) DateTimeStamp	DateTimeStamp	m/d/yyyy h:mm																																									
(15) Record	Record																																										
(16) Average Air Temperature	ATemp	°C	00.0																																								
(17) Average Relative Humidity	RH	%	000																																								
(18) Average Barometric Pressure	BP	mb	0000																																								
(19) Average Wind Speed	WSpd	m/s	00.0																																								
(20) Average Wind Direction	Wdir	°	000																																								
(21) Maximum Wind Speed	MaxWspd	m/s	00.0																																								
(22) Maximum Wind Speed Time	MaxWspdT	hh:mm	hh:mm																																								

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 2
Rev. April 2009

Agency: MMD			Review Date
Item #	Section/Page	Topic	Comment
			(23) Wind Direction Standard Deviation SDWDir sd 000 (24) Total Precipitation TotPrp mm 00.0 (recorded in 15 minute intervals) (25) Average Battery Voltage AvgVolt volts 00.0 (26) Cumulative Precipitation (24 hour period) CumPrp mm 00.0
	RHR Response		This comment is a repeat of comment No. 17 on page 8 of NM MMD's comments provided to RHR in July. Please see RHR Response to comment No. 17, page 11 of this submittal.
19.	Section 2.8.1	Meteorological Station – general	General – The plan needs to specifically state all the required QA/QC checks (item by item) are performed per the <i>Campbell Scientific</i> CR1000 standard operating procedures (SOP) for the Meteorological Monitoring Station.
	RHR Response		This comment is a repeat of comment No. 18 on page 9 of NM MMD's comments provided to RHR in July. Please see RHR Response to comment No. 18, page 12 of this submittal.
20.	Section 2.8.1	Meteorological Station – wind-speed	Measuring wind-speed –There should be assurance that common data collection errors are avoided. <u>It should be stated</u> that a weekly orientation check is performed to ensure the wind speed indicator is always pointing true north. Where is the anemometer located above the ground surface, 2-, 5-, or 10-m? The plan must specify the location.
	RHR Response		This comment is a repeat of comment No. 19 on page 9 of NM MMD's comments provided to RHR in July. Please see RHR Response to comment No. 19, page 13 of this submittal.
21.	Section 2.8.1	Meteorological Station –	Measuring Precipitation - There should be assurance that common data collection errors are avoided. <u>It should be stated that</u> the tipping bucket rain gauges are functioning properly. (These tend to jam up. Common problems arise due to roosting birds 'tampering' with the instrument causing it to clog, get stuck, or become off-balance.) A weekly check for these types of malfunctions

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 2
Rev. April 2009

Agency: MMD			Review Date
Item #	Section/Page	Topic	Comment
			needs to be specified in the SOP.
	RHR Response		This comment is a repeat of comment No. 20 on page 10 of NM MMD's comments provided to RHR in July. Please see RHR Response to comment No. 20, page 14 of this submittal.
22.	2.10	EPA references	The EPA 2007 references are not adequately identified. Please provide more specific identification for the EPA 2007 references.
	RHR Response		This comment is a repeat of comment No. 21 on page 10 of NM MMD's comments provided to RHR in July. Please see RHR Response to comment No. 21, page 14 of this submittal.
References: EPA, 2000. Meteorological Monitoring Guidance for Regulatory Modeling Applications EPA-454/R-99-005			

Section 3 Topography

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 3 Rev. April 2009			
Agency: MMD			Review Date: July 10, 2009
Item #	Section/Page	Topic	Comment
	Figure 3-1	Contour elevations	Please put elevations on the contour lines.
	RHR Response		Figure 3-1 has been revised to include elevations on the contour lines.
	Figure 3-1	Observation well - labels	Please label observation wells on map and include elevations.
	RHR Response		Figure 3-1 has been revised to label the observation wells and include elevations.
	Figure 3-1	Road labels	Please provide labeling of all paved and dirt roads.
	RHR Response		Figure 3-1 has been revised to provide labeling of all paved and dirt roads.
	Figure 3-1	Projected mine operations and buildings	Data collection that should be associated with proposed building locations. Consequently, please provide a general lay-out of mine operations: buildings, ponds, vents, waste piles, burrow locations, mine discharge pipes, parking, and sidewalks etc., etc., such that this layout will minimally impact canyon and arroyo up-cutting gouges and erosion. Additionally, it should be mentioned that the footprint of the mine and mine operations, because of data collection, as describe in the SAP, will may be modified due to knowledge, inferences and conclusions that the data will provide.
	RHR Response		RHR has revised the SAP to provide more detailed maps of the proposed disturbed areas in revised Figures 1-2, 1-3, 1-4 and 1-5. RHR acknowledges that the footprint of the disturbed area may need to be modified as the design is refined based on new information. The Permit Application will make such an acknowledgement.

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 3
Rev. April 2009

Reviewer: NMED SWQB Comments Agency: NMED			Review Date: May 29, 2009
Item #	Section/Page	Topic	Comment
1.	Section 3.4	Stream-channel survey	From Section 3.4, "Stream-bed contours will be prepared using aerial photographs for the area immediately adjacent to the permit area and ground level surveys for areas further downgradient (as described in Section 8 of this SAP)." The pre-mining stream channel morphology should be better defined, including channel plan, profile, and cross-section. These conventional surveys should be sufficient in number and location to characterize pre-mining channel morphology. These pre-mining data should be used to design reclamation channels that are naturally stable. (This appears to be at least partially addressed in Section 8.5.1.8.)
	RHR Response		RHR has revised Section 3.4, paragraph three (3) and Table 3-1 of the SAP to incorporate this comment as follows; "The pre-mining stream channel morphology will be defined in more detail , including channel plan, profile, and cross-section using these aerial photographs and/or conventional survey techniques. These pre-mining data will be used to aide in designing reclamation channels, where necessary, that are naturally stable."

Section 4 Vegetation

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 4 Rev. April 2009			
Agency: MMD			Review Date 5/26/09
Item #	Section/Page	Topic	Comment
1.	Section 4.1	Introduction and Background	Copies of Wood 2006a & 2006b should be provided for our review.
	RHR Response		RHR will provide copies of these documents as Appendices to the Vegetation Section of the Baseline Data Report that will accompany the Mine Permit application.
2.	Figures 4-1 thru 4-3	Maps	All maps need to show elevations and/or contour intervals.
	RHR Response		RHR has revised these figures to show elevation and contour intervals
3.	4.3, pg. 4-3	List of Data to be Collected	Provide rationale for transect & exclosure locations and reference area chosen.
	RHR Response		RHR has revised paragraph one of page 4-3 of the SAP to provide the rationale requested.
4.	" "	" "	Discussion needed on pre-mining impacts from livestock grazing. (see 17. below)
	RHR Response		RHR assumes that the commenter means to refer to comment no. 15 below as there is no comment no. 17 for this section of comments. Paragraph two on page 4-3 of the SAP was revised to address the commenter's concerns. The following was added; "To evaluate rangeland health for a given location, NRCS guidelines use 17 indicators to assess 3 ecosystem attributes: soil and site stability, hydrologic function, and biotic integrity (National Research Council 1994, Pyke et al. 2002, Pellans et al. 2005). These indicators include rills, water flow patterns, pedestals and terracettes, bare ground, gullies, wind scour and depositional areas, litter movement, soil resistance to erosion, soil surface loss or degradation, plant composition relative to infiltration, soil compaction, plant functional/structural groups, plant mortality, litter amount, annual production, invasive plants, and reproductive capability. Quantitative measures of bare ground, microbiotic crust, litter and plant cover will be made using the point intercept method. Plant functional/structural groups will be described by considering the species observed along each transect line. Qualitative observations will be made and recorded in the field notes on

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 4
Rev. April 2009

Agency: MMD			Review Date 5/26/09
Item #	Section/Page	Topic	Comment
			plant mortality, evidence of plant reproduction, the extent of pedestals, livestock trails, and evidence of disturbance.”
5.	Fig. 4-2	Vegetation Transect Line Locations and Enclosure Locations	Explain what the symbol “Pool” represents.
	RHR Response		Figure 4-2 has been revised to provide the explanation requested by the commenter as follows; Pools are ‘water pockets’ in sandstone that catch run-off.
6.	Fig. 4-3	Transect Line Locations and Enclosure Locations	Explain why no arroyo transects are proposed in the reference area.
	RHR Response		Section 27, i.e., the reference area, was established as a control for wildlife data collection, not as a vegetation control site. Figure 4-3 has been removed from the revised SAP to avoid confusion.
7.	Section 4.4.1.3	Invasive and Non- Native Species	Which list of noxious weeds will be used (e.g., NM Dept. of Ag.)?
	RHR Response		RHR has revised Section 4.4.1.3 to include the reference to Gonzales, I. Miley. 2009. New Mexico Noxious Weed List Update April 2009, Available online at: http://www.nmda.nmsu.edu/animal-and-plant-protection/noxious-weeds/weed_memo_list.pdf, as the list that will be used.
8.	Section 4.4.2	Vegetation Descriptions	Veg. cover, total grd. Cover, etc. will be documented for reference area, too?
	RHR Response		Please see RHR’s response to Item #6 above.
9.	Section 4.4.2.2	Data Collect...	What is the purpose of arroyo transects & how will they be taken?
	RHR Response		During baseline data collection, vegetative surveys were conducted in the drainage (arroyo)

**Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 4
Rev. April 2009**

Agency: MMD			Review Date 5/26/09
Item #	Section/Page	Topic	Comment
			running south from Section 16 to Section 21 and the unnamed tributary of the San Mateo Wash (2008). The purpose of the arroyo transects is to provide background data regarding vegetation located within arroyos, particularly down-gradient from the mine water discharge area. These data will be obtained in the manner described in Section 4.4.2.2. A more detailed description of the methods used is available in attachments to Section 4.0 of the revised SAP and the Baseline Data Report.
10.	" "	" "	Are all six veg. types found in the reference area?
	RHR Response		Five of the six vegetation types, as described for vegetative surveys, were found in the wildlife reference area. The drainage bottom vegetation type was not found in the wildlife reference area.
11.	" "	" "	For point-intercept method, 15 transects minimum are required (MMD Guidelines).
	RHR Response		Paragraph five of Section 4.4.2.2 of the revised SAP has been modified to make it clear that a minimum of 15 transects will be run in direct impact areas, wherever feasible.
12.	" "	" "	For belt transects, 15 transects minimum are required (MMD Guidelines).
	RHR Response		Paragraph five of Section 4.4.2.2 of the revised SAP has been modified to make it clear that a minimum of 15 transects will be run in direct impact areas, wherever feasible.
13.	" "	" "	Insert the word herbaceous in the following, "All herbaceous plant material".
	RHR Response		RHR believes that this comment refers to Section 4.4.2.6, page 8, first line of paragraph three. This sentence has been revised in the SAP to address commenter's concerns.
14.	Section 4.9	Brief Discussion Supporting Proposal	Explain how ocular estimates of relative abundance will mitigate shortcomings of point intercept
	RHR Response		RHR has revised the end of paragraph two of Section 4.9 to add the following explanation to address commenter's concerns; "Making ocular estimates of cover of each species that occurs in relatively large areas along the transect lines is more likely to pick up species that occur infrequently or contribute a very small proportion of canopy cover. That is, species that may have a canopy cover of far less than 1% will be recorded."
15.	Section 4.10	References	Were NRCS rangeland conditions reviewed and considered?

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 4 Rev. April 2009			
Agency: MMD			Review Date 5/26/09
Item #	Section/Page	Topic	Comment
	RHR Response		Please RHR's response to Item # 4, above.

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 4 Rev. April 2009			
Reviewer: NMED SWQB Comments Agency: NMED			Review Date: May 29, 2009
Item #	Section/Page	Topic	Comment
1.	Section 4.3	native riparian/wetland vegetation along unnamed arroyo	This section makes reference to "potential impacts of high water volume discharge in an unnamed arroyo draining to San Mateo Creek". Associated data should support reclamation that includes the use of native woody riparian and/or wetland species in areas that support such vegetation -- whether or not those areas supported such vegetation before the discharge.
	RHR Response		Table 4-1 identifies the data need as noted by the commenter. The plan proposed to address the data need is to survey the vegetation in the drainage running from Section 16 to Section 21 in the permit area and into San Mateo Creek. The data gathered will support reclamation to an approved post-mining land use of grazing in accordance with the NM MMD regulations. Should that reclamation include the use of native woody riparian and/or wetland species RHR will provide for such vegetation. This will be addressed in more detail in the Reclamation Plan that will accompany the Mine Permit application.

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 4

Agency: NM Department of Game and Fish			Review Date: May 21, 2009
Item #	Section/Page	Topic	Comment
1.	Section 4	Vegetation	Introduction and Background. NMDGF is in possession of the Wood et al. 2006 report regarding the special status plant species survey of Section 16. We do not have a copy of the report for the Sections 9 and 10 surveys conducted that same year. Please provide NMDGF with a copy of that report.
2.	RHR Response		RHR will provide copies of these documents as Appendices to the Vegetation Section of the Baseline Data Report that will accompany the Mine Permit application.
3.	Figure 4.3	Transect Line Locations in the Reference Area	We advise that vegetation types be indicated on the reference area map that corresponds to those delineated for the project area. Also, we suggest that the number of transects be identified in each vegetation type per location (project area and reference). Also, productivity exclosures in the reference area should be added or an explanation provided for their absence.
	RHR Response		Section 27, i.e., the reference area, was established as a control for wildlife data collection, not as a vegetation control site. Figure 4-3 has been removed from the revised SAP to avoid confusion.
4.	4.4.2.2	Data Collection and Analysis of Cover	How will overlapping hits on the line intercept transects be recorded and interpreted? Also, in addition to height, we recommend that diameter at ground level be recorded for juniper and pinon trees. The project area supports a large number of old trees and for these species; diameter is a better index than height to approximate the age of the tree. Given the importance of large diameter pinon and juniper trees for bat roost needs, particularly summer maternity roosts, we recommend that cores are collected from a subset of measured trees and that site-specific correlation of diameter with age is performed as well (for the purpose of documenting the extent of mature woodland, as opposed to recent brush encroachment).
	RHR Response		Overlapping hits on the line intercept transects will be recorded and interpreted in the following manner. When the canopy of multiple species overlapped, canopy overhung bare ground, litter, or gravel/coarse sand, all the cover-types were recorded. Only one hit will be recorded if the laser sampling light hit the same species multiple times. With regard to the comment regarding height and diameter of tree, the heights and circumference at breast height (to calculate dbh) of piñon and ponderosa pine trees within 10m belt transects will be measured. In addition to the trees within a 10m belt of the transect lines, the heights and circumferences of 30 additional piñons and 30 additional ponderosa pines will be measured (6 of each species in Sections 9, 10, 15, 16 and 21). UTM coordinates will be recorded for

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 4

Agency: NM Department of Game and Fish			Review Date: May 21, 2009
Item #	Section/Page	Topic	Comment
			each of these additional trees. The heights of the junipers within the 10m-belt transects will be measured. Thirty (30) additional junipers distributed within the site will also be measured (6 in each of the Sections 9, 10, 15, 16 and 21). UTM coordinates will be recorded for each of these additional trees. The number of stems per juniper and the largest stem's circumference at breast height (to estimate dbh) will be measured for a limited number of junipers within the 10m belt transects. Extrapolations will be made using the heights of the trees and their dimensions on the aerial photographs.
5.	4.8	Laboratory and Field Quality Assurance Plan.	The personnel section of the QAP has been cut and pasted from the Wildlife section. The wildlife biologist qualifications need to be replaced with qualifications specific to botany personnel.
	RHR Response		RHR has revised Section 4.8.1 of the QAP per the commenter's request.

Section 5 Wildlife

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 5			
Agency: NM Department of Game and Fish			Review Date: May 21, 2009
Item #	Section/Page	Topic	Comment
1.	Section 5	Permits	NMDGF recommends that the project consultants obtain a scientific take permit from the state. While permits are not strictly required for this type of activity, if a state threatened or endangered species is inadvertently destroyed during the survey work, in the absence of a permit, the take would be a violation of state law. Permit application forms can be found at http://www.wildlife.state.nm.us/conservation/documentsLwildlifeforscientificeducation.pdf .
	RHR Response		RHR contractors performing the small mammal survey work during baseline data collection will be required to obtain current scientific take permits (NMDGF, USFWS). The appropriate permits will be obtained for any continuing bird, mid-large mammal, and herpetofaunal work. Section 5 of the SAP has been revised to reflect this.
2.	Section 5	Introduction and Background.	NMDGF is in possession of the Wood et al. 2006 report for the Section 16 special status wildlife species survey. We do not have a copy of the report for the Section 9 and 10 surveys conducted that same year, and request that a copy be provided to us. Only those species with federal status were included in the 2006 report. However, there are a number of state listed and sensitive species that are not included in the survey, notably the state threatened gray vireo and spotted bat, for which habitat may be present on the project area. We have enclosed a list of special status species known to occur in McKinley and/or Cibola County, and request that targeted surveys be conducted for state protected species without federal status, especially the gray vireo and spotted bat. <i>Existing Habitat.</i> Scientific binomial designations for plant species should be used when discussing them for the first time in the document. Also note that Colorado rubberweed, <i>Hymenoxys richardsonii</i> , is a perennial sub-shrub, not an annual as described in the SAP.
	RHR Response		All of the PWI wildlife reports will be provided as appendices to Section 5 of the Baseline Data Report, including the Section 9 and 10 surveys. The 2006 -2007 reports for Section 16 (final report, August 2007) did include both federal and state-listed sensitive species, as per NMDGF lists from that time period (Jankovitz, 2007). The spotted bat was not included in the 2006-2007 report because it was not listed by NMDGF as a special status species at that time. The

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 5

Agency: NM Department of Game and Fish			Review Date: May 21, 2009
Item #	Section/Page	Topic	Comment
			Gray Vireo was listed as state-threatened and is included in the report. Targeted surveys for state-protected species will be conducted at the project site as part of the ongoing baseline data gathering effort. Section 5.4 of the SAP has been modified to incorporate this comment. Inventories conducted in 2006 and 2007 were presence/absence only and did not include the formal monitoring protocols developed for the SAP in 2008. Cibola National Forest MIS and State SOC were of special focus during formal baseline data collection in 2008 (see SAP – 'Parameters to be Analyzed').
3.	Figure 5-1	Wildlife Habitat Types.	We recommend that the SAP depicts the "potential wetland riparian areas within and below the permit area," referred to on Table 5-1, and to briefly describe these areas in the text. Also, depict the "intermittent/topographic" habitat types (rock/ cliffside and arroyo/ drainages) as referred to in 5.4.2.2 Sampling Design, and describe their extent and nature in the text.
	RHR Response		The Baseline Data Report will include delineation of any wetland/riparian areas as well as intermittent/topographic habit types within and/or below the project area.
4.	5.4.1	Wildlife Species Inventory	The surveys conducted in 2006 on Section 16 do not provide full baseline data regarding comprehensive lists of species and habitat types and associations. Surveys were conducted only in the fall and winter and habitat associations are reported only for species with federal special status. We request that similar transect surveys be conducted in the spring and summer seasons and habitat associations be reported for all species observed. As noted above, we are not in possession of survey reports from Sections 9 and 10.
	RHR Response		Surveys performed in 2006 were not intended to provide full baseline data. They were presence/absence surveys designed to provide preliminary site data. Breeding season surveys were conducted in Section 16 in 2007 and the information is provided in the August 14, 2007 report. The Baseline Data Report to be submitted with the mine permit application will include more comprehensive information regarding species composition and habitat associations.
5.	5.4.2.3	Field Methodology.	We recommend that you provide detailed survey protocols for all species groups listed. Use federal or state standard protocols for special status species where available (NMDGF can provide specific protocols for burrowing owl, raptors and gray vireo). Also, we recommend that the SAP describe and identify the location of standing water where bat netting will take place as well as other wildlife-available waters on or near the permit area. Due to the potential presence of

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 5

Agency: NM Department of Game and Fish			Review Date: May 21, 2009
Item #	Section/Page	Topic	Comment
			a number of sensitive bat species, and one threatened species, the apparent presence of good roosting habitat (older junipers with dead branches and loose bark and deeply creviced, vertical rock faces) and the limited availability of appropriate netting locations, NMDGF recommends that netting surveys be supplemented with acoustic inventory techniques.
	RHR Response		The survey protocols will be provided in the Baseline Data Report.
6.	Figure 5-2	Wildlife Survey and Transect Locations.	We recommend that survey stations for medium-large mammals and herpeto/faunal small mammals in Section 10 be added, or that an explanation is provided for why no survey stations are located in that section.
	RHR Response		Mid-large mammal and herpetofaunal survey stations were established in Section 10 in 2008. Detailed survey methodology and sampling station placement is contained in the Baseline Data Report which will be submitted as part of the mine permit application.

Section 6 Topsoil

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 6 Rev. April 2009			
Agency: MMD			Review Date: May 27, 2009
Item #	Section/Page	Topic	Comment
1.	Section 6	General	<p>The term “topsoil” is usually restricted to A-horizons. In semi-arid climates good suitable materials may be salvaged from A+B+C and even some - materials. A better term for salvageable materials should be referred to as “suitable topdressing,” “suitable soils” or similar.</p> <p>Not all materials identified as “high quality” will be salvageable. There may be good quality resources on slopes too steep to salvage or within areas to avoid. Calculations of salvage volumes should consider these limitations. RHR should also allow for some loss during handling/storage, and higher post-reclamation compaction, collectively estimated as 10-15% loss by many operators.</p> <p>MMD recommends that steep slopes be reclaimed with materials containing high proportions (up to 60%, depending on matrix texture) of gravel or rock. RHR should plan to identify and handle these materials separately.</p> <p>Depending upon the variability of soils in the mine design limits, soil quality and intensity of sampling in this effort, RHR may be required to do additional mapping and sampling before mine facilities are constructed.</p> <p>Saline and sodic soils may be acceptable for salvage, depending upon the degree of effect, texture, slope position and other factors at the time of reclamation.</p>
	RHR Response		RHR agrees with the above comments. The proposed soil characterization survey will identify suitable soils to be stockpiled for future reclamation of the disturbed areas. The introduction of the SAP has been revised to reflect this information. The first construction activity in the

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 6
Rev. April 2009

Agency: MMD			Review Date: May 27, 2009
Item #	Section/Page	Topic	Comment
			areas to be disturbed for a road, shaft, or surface facility will be the removal of topsoil. The topsoil will be removed to its maximum depth or until subsoil or sub-base rock material is reached. These materials will be stockpiled separately. The potential loss of suitable topdressing will either be supplemented with amended soil or a borrow site for topsoil. RHR proposes to reclaim steep slopes, many of which will be cuts into rock slopes, with the sub-base rock material followed by a soil cover if appropriate. The proposed soil characterization will attempt to detail the soils within the identified footprints of the areas to be disturbed. Further mapping and sampling will be done in areas that may change between design and after construction. RHR will utilize the stockpiled materials for reclamation and other acceptable material if needed with the goal of returning the disturbed area to a post mining land use of grazing. More detailed discussions of soil removal, stockpiles, the use of the material stockpiles and final soil placement will be available in the Mine Operations Plan and Reclamation Plan to be submitted as part of the mine permit application.
2.	Section 6.4	Methods	RHR can easily misjudge salvageable topsoil with inaccurate information, with expensive consequences. The lack of alignment between USFS and NRCS map units (Fig. 6-2) is disconcerting and should be resolved. A soil scientist with a good deal of experience in "local" soils should be used to characterize soil resources for RHR. Many characteristics such as salinity can be extremely difficult to determine in the field without a keen eye and a "feel" for appropriate laboratory sampling.
	RHR Response		RHR will retain expert soil scientists familiar with the local area to perform detailed soils characterization in all of the disturbed areas identified in Figure 6-2. It is anticipated that the source of all of the needed "topsoil" for reclamation will come from these areas and/or any other areas which may be characterized in detail in the future before disturbance. As such, the lack of alignment between USFS and NRCS is not germane. The USFS information is presented in the SAP as an additional data set from which to begin site characterization. Section 6.4 of the SAP has been revised to reflect this.
3.	Section 6.4	Composite sampling	MMD will not accept composite sampling for soil character. Soils in the area transition from one type to another in ways that do not always equate to topographic or vegetation changes.

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 6
Rev. April 2009

Agency: MMD			Review Date: May 27, 2009
Item #	Section/Page	Topic	Comment
			<p>An arbitrary number of samples should not be determined beforehand. Each common soil component (not unit!) should be sampled at least once within each unit and fully exposed by <u>backhoe</u> for a thorough view/characterization of the profile.</p> <p>The field soil scientist should have some leeway if field checks reveal more or less variability than is indicated in higher-order maps. Again, MMD stresses that an experienced soil mapper at the beginning can prevent expensive mistakes at the end of the salvage/storage/reclaim cycle.</p>
	RHR Response		The experienced soil scientist retained by RHR will review and discuss these comments concerning soil mapping with NM MMD to reach a consensus on the field approach.
4.	Section 6.4	Depth-wise sampling	<p>Soils in the area will have well defined strata that will not correspond with arbitrary sampling depth intervals such as 0"-6". RHR should NOT sample from specified depth intervals but attempt to define individual horizons at a sampling location and the depth of "breaks" or transition zones between them. By locating breaks, a more accurate salvage volume can be estimated for a particular area without mixing horizons of different character.</p> <p>See item 2 above: A soil scientist may randomly or (better) locate sampling points within chrono- or toposequences to better characterize an "average" and "deviation" of soils from existing maps for an area. Each location may be described by changes in texture, color, etc. from location to location, though sampling for laboratory tests from a single "representative" type-profile may suffice for an area of similar soil.</p> <p>Unless buried soils are encountered or expected, RHR should limit sampling to materials above Ck horizons that have >10% carbonates or any induration.</p>
	RHR Response		The experienced soil scientist retained by RHR will review and discuss these comments concerning soil mapping with NM MMD to reach a consensus on the field approach.
5.	Table 6-3	Parameters	The field soil scientist should be prepared to and frequently perform analysis of soils for pH

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 6
Rev. April 2009

Agency: MMD			Review Date: May 27, 2009
Item #	Section/Page	Topic	Comment
			<p>and electrical conductivity in order to “field-calibrate” for these important parameters and judge sampling needs.</p> <p>In addition to a hydrometer texture, please sieve for the break between medium, fine and very fine sands (#60 and #140 sieves). Sieve data should be proportioned to total sample mass (from hydrometer data). This will enable better RUSLE or SedCad modeling later.</p> <p>Rather than test for macro- and micronutrients RHR should instead test samples for soluble B, hot-water soluble Se, and total U, Ra (or gross alpha and beta in lieu of U, Ra). N-P-K testing may be helpful immediately before reclamation, tested from stockpiled materials, though N and P values will be reliably below any agronomic values.</p> <p>Please add inorganic carbon testing to the parameter suite. (to the nearest 0.1% CaCO₃ equiv.)</p> <p>Soil SAR (sodicity) data should include component parameters of paste Ca, Mg and Na in units of me/L</p>
	RHR Response		The experienced soil scientist retained by RHR will review and discuss these comments concerning soil mapping with NM MMD to reach a consensus on the field approach.

Section 7 Geology

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 7 Rev. April 2009			
Reviewer: Agency: MMD			Review Date: July 10, 2009
Item #	Section/Page (or general)	Topic	Comment
1.	Section 7/ page 18	Geology	General comment: the thickness of the Dilco Coal is probably less than five feet thick.
	RHR Response		RHR agrees. As indicated in paragraph four, page eighteen of Section 7.1.4, the Dilco Coal Member of the Crevasse Canyon Formation averages 128 ft. in thickness in the permit area. The Dilco Coal Member is mostly shale and sandstone with thin coal interbeds. Individual coal beds are probably on the order of 5 feet thick or less. This paragraph has been revised to reflect this information.
2.	Section 7/ Page 12	Geology	Include a set of the recent borehole logs from 2007 with the tops marked and target ore zones indicated as RHR interprets them.
	RHR Response		Figure 7-7 of the SAP has been revised to provide an interpretation of the logs for the 2007 drilling, including the target ore zones as interpreted by RHR.

Section 8 Surface Water

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 8 Rev. April 2009			
Agency: OSE			Review Date: May 29, 2009
Item #	Section/Page	Topic	Comment
1.	<u>Section 8.1.4,</u> <u>page 8-12.</u>	springs	The springs mentioned are dismissed as having any connection to the proposed mine dewatering. In the final report for the SAP results, please provide a more detailed explanation which formations the spring are emanating from and why that excludes any connection to the mine dewatering.
	RHR Response		Per the commenter's request, RHR will provide a comprehensive evaluation of the reasons why mine dewatering will not affect the springs in the Baseline Data Report.
2.	<u>Section 8.1.4,</u> <u>page 8-12.</u>	Surface water rights	In the final report for the SAP results, please provide details on surface water rights associated with the springs in the vicinity of San Mateo Creek and the proposed Roca Honda Mine.
	RHR Response		There are no surface water rights associated with the springs in the vicinity of the proposed Roca Honda Mine on file with the OSE. A sentence has been added at the end of paragraph 3 of Section 8.1.4 of the revised SAP (page 8-13) that so states. A discussion of surface water rights to water generated from precipitation and spring flow in upper San Mateo Creek canyon will be included in the Baseline Data Report.

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 8
Rev. April 2009

Agency: MMD			Review Date : May 8, 2009
Item #	Section/Page (or general)	Topic	Comment
1.	Sections , 8.1, 8.2, 8.3	General	The plan does a fairly good job of identifying the data gaps and subsequent data needs.
	RHR Response		Thank you. RHR relies on the MMD and other regulatory agencies for guidance.
2.	Sections. 8.1, 8.2, 8.3	General	The text needs to be clarified throughout by making more consistent and specific reference to laboratory analysis for WQCC water quality standards and constituents instead of “other water quality parameters”. This is in addition to all the other parameters (cations/anions, volatiles, semi-volatiles) proposed.
	RHR Response		RHR has revised the text to include reference to WQCC water quality standards as specified in 20.6.4.900 NMAC in Table 8-4 and Table 8-5.
3.	Section 8.5.1.3	<u>Baseline Water Quality – division of stream reaches</u>	The first sentence of Section 8.5.1.3 makes mention of “reaches will be characterized...,” but nowhere is it explained how the reaches have been broken out or distinguished. The text should provide a better description of how the drainage system was segmented, and what reasoning was employed.
	RHR Response		The stream reaches of San Mateo Creek will be classified as ephemeral, intermittent and perennial according to the criteria proposed in the draft “Hydrology Protocol for Determination of Ephemeral, Intermittent, and Perennial Waters,” prepared by the SWQB of the NMED. This explanation has been added to the revised SAP in Section 8.1.2., referred to in Section 8.5.1.2, and included in Table 8-4 and Table 8-5. The reference to “characterization” in the first sentence of Section 8.5.1.3 refers to characterization of stream flow chemistry.
4.	Section 8.5.1.3	<u>Baseline Water Quality – sample populaton</u>	The document should explain how it was determined that a sample population seven samples would suffice? It seems a minimum sample size of at least 10 would be pursued in order to minimally define the variance within the sample population. It should be better described how the sample locations are determined, and what dictates the proposed number of samples.
			Describe sample collection in terms of measured field parameters and filtration (totals,

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 8
Rev. April 2009

Agency: MMD			Review Date : May 8, 2009
Item #	Section/Page (or general)	Topic	Comment
			dissolved). What is needed is a sample and analysis plan the defines protocols, i.e., the planned volume of the samples collected, will there be any field parameters taken (conductivity, EH, pH, etc.?) are you going to collect volatiles and semi-volatiles, filtered and unfiltered samples, size of filters, will samples be stored at a specific temperature.
	RHR Response		Sample location, number of samples, field protocols, etc. will be determined using USGS NAWQA protocols, specifically those outlined in USGS OFR 94-455 and USGS OFR 97-223 and the techniques outlined in USGS TWRI 9, "National Field Manual for Collection of Water Quality Data," Chapters A1 thru A9 will be followed during collection and processing of the samples to the extent appropriate and/or applicable to site conditions. These documents describe in detail how sample sites should be selected, how to determine the number of sample sites, and how to collect, process and store the samples, and which parameters should be taken in the field. Table 8-5, Section 8.5.1.3 and Section 8.8 of the SAP have been revised to reflect this information.
5.	Section 8.5.1.3	<u>Baseline Water Quality – laboratory detection limits</u>	There should be some mention and/or description of the method detection limits that will be employed in the laboratory. The methods are all provided but not the respective detection limits.
	RHR Response		RHR has revised Section 8.5.1.3 of the SAP to indicate that a certified laboratory will be used to perform the analyses and that the lab will be required to meet the detection limit requirements of its certification(s). In addition, Table 8-6 has been revised to include the required detection limits for each constituent to be analyzed.
6.	Section 8.5.1.4	Sediment Constituents	This section needs a discussion on what particle size fraction will be collected for lab analysis. Document needs a discussion as to the sample types; surface point, transect composite, and/or point depth composite. How will samples be collected? What volume of sediment will be collected? How will the

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 8
Rev. April 2009

Agency: MMD			Review Date : May 8, 2009
Item #	Section/Page (or general)	Topic	Comment
			sample be prepared (sieving) in the field? Compositing? Split samples for QA/QC? Explain if geomorphic features were considered when selecting sample locations. Describe where sediments will be collected (active channel, bars, overbanks, etc)
	RHR Response		With regard to particle-size fractions, samples will not be sieved prior to analysis because biasing the background samples, particularly toward fine grain sizes, would tend to overstate the concentration of constituents in pre-mining samples. All samples will be discrete grab samples taken from the uppermost 5 cm of sediment and not composited, as compositing tends to smooth local variability and present averaged information rather than the true variability. Samples will be collected using a modified version of Shelton and Capel (1994), streamlined and simplified to include elements of SW-846 (USEPA, 2007, Guy (2005) and Edwards and Glysson (1999). Approximately 1 kg of sample will be collected, homogenized, and sub-sampled to fill the sample jar. QA/QC samples will be taken at specified locations. Duplicate, Matrix Spike samples, and Matrix Spike Duplicate samples will be collected at these locations. Geomorphic features will be considered in the sample site collection process. RHR has revised Section 8.5.1.4 of the SAP to provide more details to address the commenter's concerns.
7.	Section 8.5.1.5	Soluble Constituents in Sediments	The text needs to describe any modification to Synthetic Precipitation Leaching Procedure (SPLP) (water/soil ratio, pH adjustments?)
	RHR Response		The sediment to water ratio for the initial evaluation will not be modified. Under some circumstances it might be desirable to reduce the solid to liquid ratio to improve detection limits for constituents. However, the use of standard techniques have the advantage of allowing data to be easily compared to results from other sources and helps with the interpretation of results. RHR will use a standard solution adjusted to a pH of 5.00±0.05 to

**Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 8
Rev. April 2009**

Agency: MMD			Review Date : May 8, 2009
Item #	Section/Page (or general)	Topic	Comment
			leach the samples. The actual rainfall in the permit area is less acidic than this. However, use of the standard solution improves the comparability of results even if it tends to overstate the mobility of sediment constituents.

**Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 8
Rev. April 2009**

Agency: Forestry			Review Date: May 27, 2009
Item #	Section/Page (or general)	Topic	Comment
1.	<u>Page 8-3</u>	Inter-relationship between potentially impacted springs and flora	<p>The surface water hydrology section in the Roca Honda SAP will investigate these springs, but a botanist and hydrologist also should look at them. And will the ground water that supplies these surface springs be diminished or polluted by the mining operation?</p> <p>My concerns combine a rare plant species with hydrology. Parish's alkali grass occurs on wet, highly alkaline or salty soils around low elevation springs and seeps – not in the adjacent mountains. Do all the springs and seeps along San Mateo Creek have Parish's alkali grass? I know it occurs in the saltgrass cienega around a spring about 2 miles west of San Mateo (Bridge Spring on SAP map page 8-3) and probably on the adjacent North Spring and South Spring along San Mateo Creek.</p>

**Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 8
Rev. April 2009**

Agency: Forestry			Review Date: May 27, 2009
Item #	Section/Page (or general)	Topic	Comment
	RHR Response		<p>No springs or seeps are present within the Permit Area. Field investigations by a hydrologist have determined that of the springs which have been located by earlier investigators, "North Spring" does not currently exist, and Bridge Spring, although present, is a foul seep that in September of 2009 contained a discarded vacuum cleaner, beer cans and a dead horse. Salt cedars are abundant in the arroyo where North Spring was found by earlier investigators, and probably consume whatever shallow ground water is present before it reaches land surface. South Spring also appears to be a seep lined with salt cedars which consume a significant portion of its flow. More field work by a hydrologist is planned to document and describe the perennial/intermittent/ephemeral reaches of San Mateo Creek. At that time the presence of these and other springs along San Mateo Creek will be documented more thoroughly. There is the potential for Parish's alkali grass to occur anywhere along San Mateo Creek that has appropriate soil/habitat conditions. The seasonally wet pond in the central part of Section 16 was surveyed in late May and Parish's alkali grass was not observed. This area is not particularly alkaline and did not appear to provide typical habitat for Parish's alkali grass. This grass species flowers in May to June. The presence of Parish's alkali grass along San Mateo Creek will be investigated. Please see the RHR response to OSE comment #1 above for a discussion regarding the unlikelihood of adverse impacts on the springs of mine dewatering.</p>

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 8
Rev. April 2009

Reviewer: NMED SWQB Comments Agency: NMED			Review Date: May 29, 2009
Item #	Section/Page (or general) Section 2	Topic	Comment
1.	Section 8.1	San Mateo Creek, Rio San Jose, and the Rio Puerco stream types.	Contrary to Section 8.1, San Mateo Creek, the Rio San Jose, and the Rio Puerco may be, at least in reaches, intermittent streams. This is indicated by the presence of woody riparian vegetation that commonly requires water flows beyond mere direct response to storms. Likewise, SWQB disputes that "the drainage and the portions of San Mateo Creek that will be affected directly by discharged water are ephemeral." This comment is supported by the existence of local springs described in Section 8.1.4.
	RHR Response		RHR will perform a field survey which will detail the classification of the reaches of San Mateo Creek as ephemeral, intermittent and perennial according to the criteria proposed in the draft "Hydrology Protocol for Determination of Ephemeral, Intermittent, and Perennial Waters," prepared by the SWQB of the NMED. This provision has been added to Section 8.1.2, Table 8-4 and Table 8-5. A preliminary field investigation indicated that the reach of San Mateo Creek below the proposed discharge point is ephemeral. Previous investigators have reported that Bridge, North, and South springs issue along the contact between the Point Lookout Sandstone and the Menefee Formation 2/3 mile upstream of the point where dewatering water will enter San Mateo Creek. (Please see Figure 8-5 of the SAP) North Spring is consumed by salt cedar and no longer exists; Bridge and South Spring sink into the alluvium of the stream channel a ¼ mile below their points of issuance. The more thorough field survey noted above will document the springs in more detail. The text which describes the Rio San Jose and the Rio Puerco has been revised as various locations in Section 8.0 to better describe the nature of those streams' various reaches.
2.	Section 8.1	Proposed discharge impact on ephemeral streams	Section 8.1 says that "the Roca Honda permit area is drained by ephemeral arroyos...." This text should make clear that the proposed discharge would change at least one of those ephemeral streams to a perennial flow regime.
	RHR Response		The end of paragraph four of Section 8.1 of the SAP has been revised to clarify this.

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 8
Rev. April 2009

Reviewer: NMED SWQB Comments Agency: NMED			Review Date: May 29, 2009
Item #	Section/Page (or general) Section 2	Topic	Comment
3.	Section 8.1.2	Impacts of discharge to ephemeral surface waters	Regarding Section 8.1.2, the SWQB asserts that at least some of the ephemeral surface waters will become intermittent or perennial during and after the discharge of pumped ground water.
	RHR Response		As stated in RHR response to NMED Comment Item #1, above, RHR will perform a field survey which will detail the classification of the reaches of San Mateo Creek as ephemeral, intermittent and perennial according to the criteria proposed in the draft "Hydrology Protocol for Determination of Ephemeral, Intermittent, and Perennial Waters," prepared by the SWQB of the NMED. Section 8.1.2 has been revised to reflect this.
4.	Section 8.5.1.1	mapping of woody riparian vegetation	The analysis described in Section 8.5.1.1 should include mapping of woody riparian vegetation, as this can indicate hydrologic conditions such as springs or a non-ephemeral flow regime.
	RHR Response		RHR will perform a field survey which details the classification of the stream reaches of San Mateo Creek as ephemeral, intermittent and perennial according to the criteria proposed in the draft "Hydrology Protocol for Determination of Ephemeral, Intermittent, and Perennial Waters," prepared by the SWQB of the NMED. The presence of riparian vegetation is one of the criteria included in the Protocol. Please see revised Tables 8-4 and 8-5.
5.	Section 8.5.1.2	Survey and mapping of intermittent reaches	According to Section 8.5.1.2, "Once the aerial photographic analysis is completed, a ground survey will be conducted to confirm the location of perennial water bodies and the location and use of structures." Intermittent reaches should also be ground-surveyed and mapped, rather than lumped with ephemeral reaches.
	RHR Response		Please see RHR's response to NMED comment #4 above.
6.	Section 8.5.1.2	Determination that arroyo is	Section 8.5.1.2 says that "The presence or absence of water in the alluvium at the base of the stream bed will be used to determine if the unnamed arroyo and San Mateo Creek are

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 8
Rev. April 2009

Reviewer: NMED SWQB Comments Agency: NMED			Review Date: May 29, 2009
Item #	Section/Page (or general) Section 2	Topic	Comment
		ephemeral or intermittent	ephemeral or intermittent.” This should not be the only criterion – woody riparian vegetation (i.e., vegetation that is distinct from the uplands) can also indicate flow regimes beyond ephemeral.
	RHR Response		Please see RHR’s response to comments #4 and #5 above. The text in Section 8.5.1.2 has been revised to include reference to the Hydrologic Protocol and to describe the field survey that will be done.
7.	Section 8.5.1.7	Stream bed and channel armoring	Section 8.5.1.7 describes Stream Bed Armoring. This section should acknowledge that vegetation, particularly in response to perennial flow, could also affect channel morphology.
	RHR Response		During the stream survey described in the RHR’s response to comments #4, 5, and 6 above, role of the presence of vegetation on channel morphology is acknowledged and a survey of channel conditions with respect to vegetation will be incorporated. Section 8.5.1.7 has been revised to reflect this.
8.	Section 8.5.1.9	Stream rating tables	Section 8.5.1.9 describes stream rating tables. The SWQB is concerned that insufficient flow measurements (such as during times of non-wadeable flows) may preclude development of a reliable rating table. The section should address modeling a rating table to fill such data gaps. The SWQB appreciates efforts to relate discharge “break points” with morphological features.
	RHR Response		RHR has reviewed its previously proposed plan to establish a stream flow gaging station and agrees that the current ephemeral nature of San Mateo Creek flow will make developing a reliable rating table close to impossible. To determine the rate of stream loss to the alluvium of the stream bed over various reaches of the river, the flow of the creek after a sufficiently large precipitation event will be measured at various points along the Creek using portable weirs or AA stream flow meters. Section 8.5.1.9 has been modified to instead, install automatic crest-stage gages (ACSGs) at a number of points along San Mateo Creek. Tables 8-4 and 8-5 have also been modified to reflect this.

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 8
Rev. April 2009

Reviewer: NMED SWQB Comments Agency: NMED			Review Date: May 29, 2009
Item #	Section/Page (or general) Section 2	Topic	Comment
9.	Section 8.8	Representative Water sampling	Section 8.8 addresses sampling of flowing water. This section should discuss methods to ensure collection of representative samples, specifically integration through the water column.
	RHR Response		Section 8.8 and other appropriate Sections, as indicated in other RHR Responses, have been revised to address this concern. Including use of USGS NAWQA protocols, specifically those outlined in USGS OFR 94-455 and USGS OFR 97-223 and the techniques outlined in USGS TWRI 9, "National Field Manual for Collection of Water Quality Data," Chapters A1 thru A9, as appropriate. With respect to commenter's concerns regarding collection of representative samples, specifically integration through the water column, none of the reaches that will be sampled have water-flow that warrants that kind of concern.
10.	Section 8.9	Baseline channel morphology data	Section 8.9 should acknowledge that these data will also help establish "baseline" channel morphology.
	RHR Response		Section 8.9 has been revised to include a reference to the data's contribution to the establishment of baseline channel morphology.
References:			

Section 9 Ground Water

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 9 Rev. April 2009			
Agency: MMD			Review Date: July 10, 2009
Item #	Section/Page (or general)	Topic	Comment
1.	Section 9 Page 5	Ground water	MMD advised the drilling of another Dakota well and Gallup well near the production well to monitor leakance from these formations during the Westwater aquifer test.
	RHR Response		RHR is aware of the desire to monitor upper-lying formations. Wells S-1, S-3 and S-4 will be used to test the hydraulic properties of the Westwater formation. RHR will install additional wells in the Dakota, Gallup, Point Lookout and/or the Menefee formations, as necessary, for uses to include monitoring in an aquifer test to determine if there is hydraulic connection between the Westwater and the overlying formations. Table 9-11 of the SAP has been revised to reflect this.
2.	Section 9	Groundwater	General comment: The SAP should indicate that the permit application will provide a discussion on water rights.
	RHR Response		Paragraph 1 of Section 9.2 has been revised to indicate an evaluation of potential impacts on water rights will be included in the Permit Application. A discussion on water rights will be included in the Baseline Data Report.
3.	Section 9	Groundwater	General comment: Need construction diagrams of production and monitor wells.
	RHR Response		Appendix A of Section 9, "Aquifer Pump Test Design Procedure Protocol", has been revised to include the requested construction diagrams of installed wells in Attachment II.
4.	Section 9 Page 7	Groundwater	Describe the source of drinking water for the community of San Mateo, and explain what monitoring will take place to investigate what effect might the proposed mine dewatering might have on their source of water?
	RHR Response		The source of drinking water for San Mateo is the Point Lookout Sandstone. The Point Lookout is not saturated in the permit area at the proposed Roca Honda Mine. Therefore, no dewatering of the Point Lookout will take place at the mine and there will be no affect on their source of water. The Baseline Data Report will have more details on this.

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 9 Rev. April 2009			
Agency: MMD			Review Date: July 10, 2009
Item #	Section/Page (or general)	Topic	Comment
5.	Section 9 Page 7	Groundwater	The plan should address obtaining permission from the Lee's to monitor their irrigation well during the aquifer test.
	RHR Response		Section 9.1.2.2 has been revised to indicate that permission will be obtained from the Lee Ranch to monitor their Gallup Sandstone well per the commenter's request.
6.	Section 9 Page 30	Groundwater	Table 9-11 needs to include the Dakota Formation as one of the aquifers to be monitored.
	RHR Response		Table 9-11 has been revised to include monitoring the Dakota Formation.
7.	Section 9 Page 33	Groundwater	Table 9-13, needs to identify whether S1, S3, or S4 is to be the Pumping Well so that the related monitoring wells can be appropriately placed. The placement of the other monitoring wells, then need to be identified.
	RHR Response		Each well may be pumped during the test and the other two monitored. The purpose of which is to assess the hydraulic properties of the Westwater formation. The location of the upper formation wells is undetermined at this time.

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 9 Rev. April 2009			
Agency: OSE			Review Date: May 29, 2009
Item #	Section/Page	Topic	Comment
1.	Section 9	General	The NM OSE Hydrology Bureau has reviewed the April 2009 Sampling and Analysis Plan (SAP) for the proposed Roca Honda mine, located in Sections 9, 10 and 16 of Township 13 North and Range 8 West in McKinley County. Amongst other permits, the proposal indentifies two required state permits from NM OSE for mine dewatering and appropriation of underground

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 9
Rev. April 2009

Agency: OSE			Review Date: May 29, 2009
Item #	Section/Page	Topic	Comment
			water permits (Section D.11-permits required, page 10 of the SAP Phase 1 Permit application for MK025RN dated 4-20-09). The SAP will, in part, collect information in support of these permit applications. Overall, the surface and ground water sections of the SAP are adequate. An implementation schedule for the SAP may be useful to the State Agencies. Several specific details should be clarified related to the number, duration of aquifer tests within Westwater Canyon member of the Morrison formation. Also, the timing and number of additional wells relative to these aquifer tests needs clarification. A licensed New Mexico driller must drill and install wells in accordance with 19.27.4 NMAC.
	RHR Response		RHR appreciates the NM OSE comments. Providing a schedule will be entirely dependent on approval of the SAP. The number, duration, and timing of additional well drilling are, therefore, at present uncertain. RHR would like to conduct the Jmw aquifer tests using wells S-1, S-3 and S-4 in late 2009 or early 2010. RHR will use a licensed New Mexico well driller will drill and install wells in accordance with 19.27.4.NMAC as it has in the past.
2.	<u>Section 9.1.3.1, page 9-12</u>	Alluvium water quality values	Note that the text refers to a wide range of water quality for the alluvium while the corresponding Table 9-1 and 9-2 shows one sample. Also, the well's location and number 131 in Table 9-1 does not seem to correspond with any alluvial well in Section 25 of the Plate 1. It may correspond to well 121 in Section 24.
	RHR Response		The "wide range of water quality" is referenced in the literature (Brod and Stone, 1981). The last paragraph of Section 9.1.3.1 of the SAP has been revised to clarify this. The data in the tables was meant to provide data that RHR had gathered to-date. The Baseline Data Report will provide additional data. The well's location and number are correct. There are 3 wells located at essentially the same location and the symbol for one of the other wells is obscuring the symbol for the Qal well on Plate 1. RHR has revised Plate 1 to correct this confusion.
3.	<u>Tables 9-1 and 9-2, page 9-13.</u>	Metal values	Please check metals values for lead, manganese, aluminum, zinc and copper. These tables appear to have inadvertently left off the less than sign for below the detection limit.
	RHR Response		The problem is not the < sign, but the units. Table 9-2 identifies the units for metals as being

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 9
Rev. April 2009

Agency: OSE			Review Date: May 29, 2009
Item #	Section/Page	Topic	Comment
			reported in milligram/L. The actual values for these constituents should have been reported in microgram/L. Table 9-2 has been corrected.
4.	<u>Section 9.1.3.7, pages 9-22 to 9-23.</u>	1950 – 1980 mine water discharges to surface waters	Please clarify in subsequent documents that 1950s-1980s surface discharges of mine water (and residual salts) likely contributed to the poor water quality recharge through the alluvium and into the Morrison formation. As presented, water quality of recharge from the uncontaminated alluvial aquifer would not explain the higher TDS values in the Morrison along San Mateo Creek at the confluence with Arroyo del Puerto.
	RHR Response		RHR has no basis upon which to make such a conclusion. While there may exist unpublished reports that attribute the poor quality of water in the alluvium and the Morrison Formation in this area to discharge of water by mines during the early days of uranium mining, this is not a conclusion that RHR can reach, nor is it the purpose of the SAP. The purpose of the SAP is to develop a plan under which RHR will characterize conditions which exist prior to the development of the RHR Project; i.e., baseline conditions.
5.	<u>Tables 9-1 and 9-2, page 9-13</u>	DOE wells	Note that there are other US DOE wells that were sampled in this area along with a US NRC Homestake Mill evaluation for an alluvial aquifer study along San Mateo Creek. Uranium and Selenium have been detected in the alluvial aquifer at some locations along San Mateo Creek.
	RHR Response		Initial baseline water chemistry sampling by RHR has detected high baseline values of various constituents in water sampled from some wells drilled into the alluvial aquifer. These data will be reported in the Baseline Data Report. RHR believes that the US DOE wells were located close to the Homestake Mill, and may not be relevant to establishing background. RHR will review the data referred by the commenter and include it in the Baseline Data Report as appropriate.
6.	<u>Section 9.5, page 9-33</u>	Well drilling	The SAP indicates that in geologic formations other than Morrison wells will be installed and developed in accordance to standing operating procedures. No standard operation procedures were provided. NM OSE requires that a licensed driller follow 19.27.4 NMAC Regulations to drill and complete wells. Since artesian conditions exist in the area for some aquifers, an artesian well plan of operation may be a required for submittal, review and

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 9
Rev. April 2009

Agency: OSE			Review Date: May 29, 2009
Item #	Section/Page	Topic	Comment
			approval in accordance with 19.27.4.31.A NMAC.
	RHR Response		Paragraph three of Section 9.5 of the SAP has been revised to address the commenter's concerns.
7.	<u>Section 9.5 and Table 9-14, pages 9-33 and 9-34.</u>	Installation of 'shallow wells'	Please clarify whether the shallower wells will be installed prior to the aquifer tests at wells S1, S3 and S4 in the Westwater Canyon member of the Morrison formation. In Section 9.5 it appears that the wells will be installed prior to the aquifer testing. However, Table 9-14 and the Appendix on aquifer testing procedures indicates more uncertainty about the timing of the well installation for the alluvial, Menefee formation, and Point Lookout sandstone.
	RHR Response		The timing of installation of any additional wells described in the SAP is entirely dependent on approvals received from the regulatory agencies. No well drilling can or will take place without the approval the respective agencies. Aquifer tests will also be performed in conformance with regulatory requirements. RHR proposes to conduct an aquifer test using existing wells to obtain hydrologic parameters for the Westwater formation only. RHR proposes conducting additional pump tests using new wells as approvals are obtained.
8.	<u>Table 9-15, pages 9-35 and 9-36.</u>	Incomplete metals list	Table 9-15 repeats itself without including a complete list of metals for analysis.
	RHR Response		The commenter has correctly identified an error not discovered by RHR in production of the SAP. Table 9-15 of the SAP has been revised to correct this error.
9.	<u>Section 9.5 and Table 9-14, pages 9-33 and 9-34.</u>	monitoring of existing or new wells in Gallup and Dakota sandstone	The SAP does not indicate the Gallup Sandstone and Dakota sandstone units would be monitored while pumping the Westwater Canyon member of the Morrison formation and whether wells would be installed in these units. Please clarify whether there will be any monitoring of existing or new wells screened across the Gallup and Dakota sandstones during the aquifer tests.
	RHR Response		Please see RHR's response to OSE comment item #7 above. Also, there are no wells in the Roca Honda/San Mateo area which are finished solely in the Dakota formation. There is one Gallup well in the area which will be monitored during the S-1, S-3, S-4 Westwater tests.

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 9
Rev. April 2009

Agency: OSE			Review Date: May 29, 2009
Item #	Section/Page	Topic	Comment
10.	<u>Section 9.5,</u> <u>page 9-34.</u>	quantity of discharge water estimations	The SAP states that the data collected will be used to estimate the quantity of water that will be discharged during dewatering activities. The Roca Honda Project likely will need water quantity evaluations on regional and local scales to assess impacts. Please clarify the methodologies that will be used to make such estimates.
	RHR Response		RHR will prepare a multi-layer, 3-dimensional ground water flow model, as identified in Table 9-12, to assess the impacts of mine dewatering and ground water appropriation on existing local and regional ground water systems. The results of the modeling effort will be discussed in the Baseline Data Report. RHR has revised Sections 9.5 and 9.9 of the SAP to reflect this.
11.	<u>Section 9.5,</u> <u>Table 9-13 and</u> <u>Appendix A.</u>	Time span of aquifer test	Please clarify the specific length of the aquifer tests, which may be 24, 72, or undetermined according to the SAP.
	RHR Response		The length of the aquifer tests has not been pre-determined. Item 11 of the Constant Rate Test Procedure contained in Appendix A, Aquifer Test Design Procedure and Protocol, contained in Section 9 of the SAP describes how the length of the test will be determined. In addition, regulatory considerations such as the amount of water we will be allowed to discharge and input from other regulatory agencies may affect the length of the test. Section 9 and Appendix A have been revised to reflect this information.
12.	<u>Section 9.5,</u> <u>page 9-33.</u>	Well inventory	The SAP mentions a well inventory and some field check of wells in comparison to the NM OSE WATERS database. Please include the Water Rights file number, point of diversion (POD) number and well diversion in the tabulated well information.
	RHR Response		RHR has completed the well inventory and will provide the information requested in the Baseline Data Report. A Water Rights file number is available for only some of the wells; if available, it will be included in the table. The POD will be included for all wells as will the diversion amount if available in OSE records.
13.	<u>Table 9-10.</u>	storativity values	Please add Storativity to Table 9-10 or create a separate table with such information. In the event Storativity values are not available for the Westwater Canyon member of the Morrison

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 9
Rev. April 2009

Agency: OSE			Review Date: May 29, 2009
Item #	Section/Page	Topic	Comment
			Formation, one consideration may be that the aquifer test duration should be long enough, if possible, to generate a drawdown response in an observation well.
	RHR Response		Table 9-10 of the SAP has been revised to add Storativity per commenter's request.
14.	<u>Section 9.1,</u> <u>page 9-1.</u>	Water level data available	Please note that around 2005 the Rio Algom Mining Company in the Ambrosia Lake area evaluated the USGS model (Kernodle, 1996) using more recent water level data since underground mining and leaching have ceased. The information may be useful in preparing a potentiometric map of the area.
	RHR Response		The potentiometric surface map for the Westwater Canyon Member, Figure 9-6, has been revised to incorporate the water level data from the Rio Algom report and recent water level measurements in other area wells.
15.	<u>Section 9.9,</u> <u>page 9-38.</u>	Type of GW model?	The SAP mentions that a ground water model will be used to assess impacts. Please clarify the type of model(s) and whether the evaluation can address both local and regional scale impacts.
	RHR Response		An RHR contractor has been retained to prepare a modified, more site-specific version of the model it prepared for Rio Algom using the USGS model as a basis. The model uses the USGS 3-D MODFLOW simulator and is capable of addressing both local and regional scale impacts on Jurassic and Cretaceous bedrock aquifers (Gallup, Dakota, and Westwater formations) for the periods of time necessary to operate the mine. Section 9.9 of the SAP has been revised to provide the clarification requested by the commenter.
16.	<u>Appendix A.,</u> <u>Pre-Test</u> <u>Activities No. 3</u> <u>& 4.</u>	Frequency of Background water level measurements	Please clarify the time interval of water level measurements for wells prior to the aquifer tests and during the recovery phase. There is mention of hourly barometric readings without a corresponding frequency for water level measurements. For background transducer measurements a more frequent measurement interval (e.g., every 15 minutes) would better assess the barometric effect on the water levels.
	RHR Response		Pre-Test Activity No. 3 has been revised to indicate that water levels will be measured every 15 minutes using transducers for 48 hours prior to the aquifer tests. Constant Rate Test Procedure No. 4 has been revised to indicate that water level measurements will be

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 9
Rev. April 2009

Agency: OSE			Review Date: May 29, 2009
Item #	Section/Page	Topic	Comment
			recorded every 15 minutes using transducers during the testing and recovery phase of the test to complement the hourly barometric readings described in Pre-Test Activity No. 4.
17.	<u>Appendix A, Constant Rate Test - Introduction; Constant Rate Test No. 13; General Test Guidelines No. 5; Pre-Test No. 9; General Test No. 2 & 8; Constant Rate Test No. 9 & last paragraph; Constant Rate Test, Tables A-1 & A-2; Pre-Test No. 5; and Constant Rate Test No. 8.</u>	Aquifer test procedures	NM OSE concurs and in some instances expands upon for greater emphasis on the following aquifer testing procedures: allow full recovery of water levels to background after the step test and before the constant rate test; continue measurements during recovery phase for possibly weeks until full recovery of water levels is reached; refuel and maintain the generator without shutting down pump during the test; record in the field log all adjustments to valve position and flow rate even when flow checks result in no changes; append field log to data tables; and collect more frequent transducer data for early and late time recording because the data may be useful in identifying regional background trends and indicating equipment malfunctions
	RHR Response		RHR and OSE are in accord on these points, most of which are already addressed in Appendix A. Where appropriate, RHR has revised Appendix A to incorporate the OSE's additional emphasis. Also, an Item 11 has been added to the General Aquifer Pump Test Guidelines that addresses compilation of all data into physical and electronic files.

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 9
Rev. April 2009

Agency: OSE			Review Date: May 29, 2009
Item #	Section/Page	Topic	Comment
18.	<u>Appendix A, General Test No. 3; and Pre-Test No. 7.</u>	Flow meter	Check manufacturer specifications for totalizing flow meter placement relative to discharge plumbing such as the proximity to elbows, valves, diameter changes and the gate valve for proper function.
	RHR Response		General Aquifer Pump Test Guideline No. 3 and Pre-Test Activity No. 7 in Appendix A have been revised to add a sentence which specifically addresses the commenter's concern.
19.	<u>Appendix A, General Test No. 3; and Constant Rate No. 9.</u>	Orifice meter	Check manufacturer specifications for correct use of orifice meter and manometer (or orifice plate and manometer) regarding proximity to plumbing transition and limitation for diameters selected.
	RHR Response		General Aquifer Pump Test Guideline No. 3 in Appendix A has been revised to add a sentence which specifically addresses the commenter's concern.
20.	<u>Appendix A, Pre-Test No. 5.</u>	Transducers for water level measurement	Check the ratings of the transducers, particularly in the pumped well, to avoid exceeding the tolerance of the device. This would most likely be an issue with setting the transducer near maximum submergence, then having pumping shut off in a transmissive aquifer, where recovery bounce occurs, possibly exceeding original static water level vigorously. It might also occur subtly if there is a regional rise in water level over the duration of data collection, and again the transducers were set at extreme submergence. Transducers provide most accurate data when operated in the middle of their pressure range.
	RHR Response		RHR recognizes that transducer sensitivity is an issue and will work with the manufacturer or vendor of the device to ensure that the instruments selected will read accurately over the expected water level range. Item 6 under General Aquifer Pump Test Guidelines in Appendix A addresses this issue.

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Related to Section 9
Rev. April 2009

Reviewer: NMED GWQB comments Agency NMED			Review Date: May 29, 2009
Item #	Section/Page (or general)	Topic	Comment
1.	General	Groundwater Permit requirements	<p>Pursuant to the New Mexico Water Quality Control Commission Regulations (WQCC), Roca Honda Resources has submitted a Ground Water Discharge Permit Application for a proposed mine (DP-1717). The above referenced SAP is included as an attachment to this application and detailed review and comment will be an integral part of the technical review of the Discharge Permit Application. As NMED moves forward with the permitting process detailed comments on the SAP will be provided to the applicant and MMD will be copied on all correspondence related to this effort.</p> <p>Establishment of existing ground water quality within the permit area, and within areas down gradient of the proposed mine site and discharge locations is outlined within the SAP. The New Mexico Mining Act regulations require the collection of baseline data related to ground water. Detailed characterization of ground water relevant to establishment of baseline conditions will be required as part of the discharge permitting process. Pursuant to the WQCC Regulations, the numerical standards as set forth in Section 20.6.2.3103 are applicable unless the applicant makes a statistically valid demonstration that existing water quality exceeds one or more of those standards. Although this is not discussed within the SAP, this will also be addressed through the Discharge Permit process.</p> <p>The SAP mentions collection of additional data not provided within the SAP including, sampling and analysis of existing wells within the general permit area (much of which has been conducted) and installation of additional ground water monitoring wells to collect data from overlying water bearing formations from the target zone. No schedule is provided for installation and sampling of additional monitoring wells, nor are explicit monitoring well locations proposed. NMED will require a number of additional wells, to both characterize ground water quality within and down gradient of</p>

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 9
Rev. April 2009

Agency: OSE			Review Date: May 29, 2009
Item #	Section/Page	Topic	Comment
			<p>the proposed mine and discharge location(s), as well as for ongoing ground water monitoring during operations. This will also be addressed through the Discharge Permit process.</p> <p>As mentioned above, technical review of the Discharge Permit Application is ongoing, and MMD will be copied on detailed correspondence relative to the SAP and MMD Permit No. MK025RN.</p>
	RHR Response		<p>RHR acknowledges NMED-GWQB's statements. RHR will provide available ground water baseline data in the Baseline Data Report. The Baseline Report also discusses the wells selected for RHR's ground-water quality monitoring program and tabulates the water chemistry data collected at those wells. RHR is anticipating guidance from the NMED regarding additional ground water monitoring requirements. RHR acknowledges NMED-GWQB's position that pursuant to the WQCC Regulations, the numerical standards as set forth in Section 20.6.2.3103 are applicable unless the applicant makes a statistically valid demonstration that existing water quality exceeds one or more of those standards. RHR has found that baseline ground water chemistry greatly exceeds one or more of those standards in some wells.</p>

Section 10 Radiological Survey

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 10, Rev. April 2009			
Agency: MMD			Review Date July 10, 2009
Item #	Section/Page (or general)	Topic	Comment
1.	General	Radon Survey	Note - The TLD radon 'survey' needs to be in Section 10 not Section 2.
	RHR Response		RHR prefers to leave the air quality discussion in Section 2 and will note it in paragraph two of Section 10.3 of the revised SAP as follows; "Passive monitoring for background gamma exposure and radon concentration levels is performed using environmental TLDs and radon track etch cups. Background air monitoring for airborne radioactive particulates is performed using high volume air samples and air filter media. The monitoring protocols associated with these devices are covered in Section 2, Meteorology and Air Quality."
2.	General	Survey details	The proposed mining activity may introduce elevated ionizing radiation levels to the proposed mining area. Ionizing radiation levels will be heavily scrutinized during the mining operation and when mining ceases. Therefore, there needs to be a traceable and defensible pre-mining data collection that characterizes pre-mining radiation levels, specifically gamma radiation levels.
	RHR Response		RHR's SAP will establish and document pre-mining radiological conditions and gamma radiation is specifically targeted. RHR will monitor radiological conditions during mining operations. The site will be returned to pre-mining radiological conditions post operations.
3.	General	Data Quality Objectives	There needs to be a clearly stated Data Quality Objective. The objective needs to include the purpose of the survey and the 3 types of surveys needing to be performed. Collecting radiological data is a two-part process in which the intended data will be used in the years following mining commencement. The collected data is meant to ascertain 'background' or 'baseline' radiological levels prior to mining. The background data will be used as baseline values to determine whether there may be elevated gamma, as a result of RHR mining activities. Therefore, the survey should be composed of 3 types of

**Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 10,
Rev. April 2009**

Agency: MMD			Review Date July 10, 2009
Item #	Section/Page (or general)	Topic	Comment
			measurements as described in (EPA et. al., 2000, MARSSIM Section 2.2 page 2-3) data collection; 1) the scanning (of which you have described), 2) soil sampling, and 3) direct measurement using the NaI scintillation counter.
	RHR Response		Section 10.2 of the SAP contains RHR's Sampling Objective for its Radiological Survey. As stated therein, the objective is to perform a radiological baseline assessment of the gamma radiation and existing concentration of naturally occurring radionuclides in soil associated with the RHR permit area. RHR believes this to be a clear statement of its objective. The MMD Mining Act regulations do not specifically require that a Radiological Survey be performed nor do they provide guidance on the methodologies to be used. RHR does not accept the premise by the commenter that EPA MARSSIM need be used as guidance in establishing its radiological baseline survey program. RHR has retained a reputable radiological characterization firm to design its baseline monitoring program with extensive experience in designing and operating radiological monitoring programs. RHR's program contains the three components identified by the commenter. RHR's response to comments, contained below, clearly demonstrate the manner in which the program will be conducted to address MMD's concerns. For example, in response to commenter's request that data quality objectives be clearly stated, RHR has revised Section 10.3 of the SAP to include a Subsection 10.3.1, Data Sensitivity and Completeness Objectives, to provide more detail for its quality objectives. Also, in response to commenter's direct measurement comment, in Section 10.4.2.6, Soil Sampling, first paragraph, second sentence indicates that, "The survey team will get an "on-contact" and a "1-meter" reading above each sample location prior to sampling." This sentence has been revised to clearly indicate that a NaI 2x2 inch detector will be used to collect this data.

**Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 10,
Rev. April 2009**

Agency: MMD			Review Date July 10, 2009
Item #	Section/Page (or general)	Topic	Comment
4.	Section 10.3	Direct Radiological Sampling	<p>As part of the survey RHR needs to include numerous <u>direct radiological sampling</u> (not to be confused with the scanning survey) with the NaI probe. The process for a 'direct measurement' sampling is defined in MARSSIM (EPA et. al., 2000, Section 2.2, page 2-3) as, samples obtained by placing a detector near the media being surveyed and inferring the radioactivity level directly from the detector response.</p> <p>Furthermore, the guidance for the stationary count time provided by MARSSIM (EPA et. al., 2000, Section 6, Page 10) is as follows,</p> <p>Direct measurements are taken by placing the instrument at the appropriate distance² above the surface, taking a discrete measurement for a pre-determined time interval (e.g., 10 s, 60 s, etc.), and recording the reading. A one minute integrated count technique is a practical field survey procedure for most equipment.</p> <p>MARSSIM (EPA et. al., 2000, Section 6.4.1.1, Page 11) recommends, at a minimum, a 10-second count for expected low-energy concentrations. The minimum 10-second count is not specified, and without this time-count being specified at discrete locations and elevations, the regression from 'cps' to activity at a specific location is not defensible.</p>
	RHR Response		RHR has revised Section 10.4.2.6 to specify a count time of between 0.1 to 1.0 minutes for stationary measurements. 0.1 minute (6 seconds) is chosen because that is an available option of the typical rate meter/scalers. A 6 second count is adequate to detect Ra-226 at concentrations of less than 3 pCi/g (ref, NUREG 1507).
5.	Section 10.4.2	Survey design	The presence of snow, ground moisture, humidity, dust, will affect the NaI scintillation response to gamma-rays. It needs to be specified in your survey design the weather and ground conditions at the time of survey. There needs to be stated what weather conditions will mask a response, thus warranting the survey to be postponed and resumed when more suitable conditions exist.
	RHR Response		RHR agrees that cold temperatures will affect NaI performance and operating parameters

**Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 10,
Rev. April 2009**

Agency: MMD			Review Date July 10, 2009
Item #	Section/Page (or general)	Topic	Comment
			are specified in associated operating procedures. Snow, ground moisture, humidity, and dust will have negligible effect on the mid-energy gamma radiation that will be encountered; this is especially true for the arid conditions of NM. Water ponding could have an impact, but this effect would generally be highly localized. RHR has revised Section 10.8, Laboratory and Field Quality Assurance Plan, to address commenter's concerns by adding the following cautionary statement; "Caution, survey activities must be performed within the operating parameters (temperature, pressure, humidity) of selected instrumentation. Caution, survey results may be affected by temporary changes in surface water conditions."
6.	Section 10.4.1 - general	Probe elevation	In order to determine background, or baseline radiation levels of the soil and rock formations, the collecting instrument (in this case the NaI scintillation probe) position should be at ground surface or no more the 6 cm above the ground surfaces (MARSSIM, EPA et. al., 2000, 6.4.2.1., Page 14). The elevation of the probe is not specified in the SAP, please specify the elevation of the probe relative to the ground surface, and assure that it will be placed within 6-cm of the surface.
	RHR Response		The survey approach using the NaI scintillation probe is described in NUREG 5849, Section 6.5.2 as follows; "Pass the detector slowly over the surface. The detector should be kept as close to the surface as conditions allow. Gamma scanning is usually performed by moving the detector from side to side in front of the body while progressing at the speed of a slow walkthe typical advancing speed in 0.5 to 1.0 meter per second." This methodology is appropriate to meet our survey objectives (detecting activity at < 3 pCi/g over a surface area of approximately one meter). The objective is to establish background, not identify small discrete sources of an area less than 1 meter.

**Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 10,
Rev. April 2009**

Agency: MMD			Review Date July 10, 2009
Item #	Section/Page (or general)	Topic	Comment
7.	Section 10	Shield on NaI Probe	<p>In order to screen-out (as much as possible) gamma-ray <i>shine</i> the NaI probe needs to be shielded to assure you are obtaining gamma-ray readings at a specific location (minimally influenced by 'shine'). Additionally, the dimensions of the shield need to be stated, as different shield dimensions will screen and block different gamma-ray quantities.</p> <p>It is not stated whether the NaI probe is shielded or unshielded and the shield dimensions. The probe needs to be shielded in minimize shine and shield dimensions need to be specified.</p>
	RHR Response		RHR will use bare (unshielded) detectors. There is no source of shine on site and sensitivity analysis, provided in Table 10-2, shows that the proposed scan methodology is sufficient to meet monitoring objectives.
8.	Section 10.4.2.1	Scan Area	RHR needs to include baseline more detailed radiological sample measurements (discrete 10-second counts) along the proposed and existing roads (along Highway 605 in Sections 16, 9, and 10). These baseline values are important in order to determine whether there will be U-bearing ore spilled on roadways as it is hauled off the site.
	RHR Response		RHR has revised Section 10.4.2.1 of the SAP to provide more details on RHR's proposed two-path survey as follows; "The immediate edge of the road and the borrow ditch along highway 605 and any haul roads will be scanned and 6-second direct counts will be collected every 200 – 300 feet." RHR has chosen to use a 6 second count because it is a selectable setting on the instrumentation to be used.
9.	Section 10.4.2.1	Check source	Per guidance from NUREG/CR 5879 - Section 5.3 - Instrument Calibration should be traceable to NIST (national institute of standards and technology) standards. -
	RHR Response		RHR assumes that the commenter is referring to NUREG 5849 not 5979. RHR's radiological subcontractor's survey program procedures are closely modeled on the program used by Oak Ridge Associated Universities (ORAU), an entity routinely called upon to provide independent radiological assessments of survey programs across the country. The primary author and overall survey program manager for the subcontractor is Mr. Jim Berger. Mr.

**Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 10,
Rev. April 2009**

Agency: MMD			Review Date July 10, 2009
Item #	Section/Page (or general)	Topic	Comment
			Berger is also the sole author of NUREG 5849 and is a leading expert in survey design and measurement. Section 6.0 of the subject procedure specifies that calibration will be performed with “standards traceable to National Institute of Standards and Technology (NIST) or other industry recognized standards organization (e.g, New Brunswick (Argonne) Laboratory for uranium stands).
10.	Section 10.4.2.1	Calibration	RHR needs to include calibration process specifics. Such as; <ol style="list-style-type: none"> 1. The instrument should have a ‘response records’ taken at the DOE calibration pads located on Highway 605 in order to derive the correlation between set counts/minute to an known ²²⁶Ra concentration (at each pad). This allows cross-checks when future surveys are is performed with different instruments. 2. From MARSSIM (Section 6.5., Page 22) and NUREG (Section NUREG/CR 5849 - Section 5.3) <i>Nal probes should be calibrated against a pressurized ion chamber (PIC).</i> To assure different probes accurately measure radiation levels at different times during mine operations the above guidance needs to be followed.
	RHR Response		RHR will correlate gamma count rate data to actual soil samples collected at the site. The gamma data and the data isopleths it will generate are qualitative in nature, meaning that its purpose is to establish site conditions relative to the typical background encountered. Future surveys can, and should, be correlated in the same way since the criteria of interest is natural uranium and/or radium contamination, net of background, in soil. PIC correlating the gamma detectors is not necessary to perform a baseline characterization of the site. Section 10.4.2.6 of the SAP has been revised to add a tissue equivalent detector. This detector will be used to collect dose rate information at soil sample collection points. Dose rate information will be gathered at the same locations as the Nal locations; i.e., soil contact, one-meter, soil surface, post sampling.
11.	Section 10.4.2.2	Procedure	There needs to be objective evidence that the listed procedures have been developed to

**Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 10,
Rev. April 2009**

Agency: MMD			Review Date July 10, 2009
Item #	Section/Page (or general)	Topic	Comment
			comply with the appropriate regulatory and peer reviewed standards and requirements. Provide the procedures and make sure they comply with requirements given regulatory or professional standards and requirements such as EPA QA/R-5 (EPA 1994), ASME NQA-1 (ASME 1989), ISO 9000 (ISO 1987), (IAEA). 1971 or similar regulatory procedures.
	RHR Response		RHR subcontractor procedures are in compliance with relevant standards and have been peer reviewed. The subcontractor's survey program procedures are closely modeled on the program used by Oak Ridge Associated Universities (ORAU), an entity routinely called upon to provide independent radiological assessments of survey programs across the country. The primary author and overall survey program manager for the subcontractor is Mr. Jim Berger. Mr. Berger is also the sole author of NUREG 5849 and is a leading expert in survey design and measurement.
<p>References:</p> <p>ASME NQA-1 (ASME 1989) - DOE Order 5700.6c (DOE 1991c)MIL-Q-9858A (DOD 1963) ISO 9000 (ISO 1987)</p> <p>EPA. 1994. <i>EPA Requirements for Quality Assurance Project Plans for Environmental Data Operations</i>. EPA QA/R-5, EPA, Draft Interim Final, Quality Assurance Management Staff, Washington, D.C.</p> <p>EPA et. al., 2000. MARSSIM (EPA 402-R-97-016 REV1, NUREG-1575 REV1, DOE/EH 1624 REV1)</p> <p>EPA 1980. <i>Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans</i>. QAMS-005/80, EPA, Washington, D.C.</p> <p>International Organization for Standardization (ISO). 1987.</p> <p>IAEA. 1971. <i>Handbook on Calibration of Radiation Protection Monitoring Instruments</i>. IAEA, Technical Report Series 133, Vienna.</p> <p>ISO 9000/ASQC Q9000 Series. American Society for Quality Control, Milwaukee, Wisconsin.</p> <p>ISO 9000-1, <i>Quality Management and Quality Assurance Standards - Guidelines for Selection and Use</i>.</p> <p>ISO 9001-1, <i>Quality Systems - Model for Quality Assurance in Design/Development, Production, Installation and Servicing</i>.</p> <p>ISO 9002, <i>Quality Systems - Model for Quality Assurance in Production and Installation, and Servicing</i>.</p> <p>ISO 9003, <i>Quality Systems - Model for Quality Assurance in Final Inspection and Test</i>.</p>			

**Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 10,
Rev. April 2009**

Agency: MMD			Review Date July 10, 2009
Item #	Section/Page (or general)	Topic	Comment
ISO 9004-1, <i>Quality Management and Quality System Elements - Guidelines</i> . NUREG -1507, <i>Minimum Detectable Concentrations with Typical Radiation Survey Instruments for Various Contaminants and Field Conditions</i> . June 1998.			

Section 11 Historical Places and Cultural Properties

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 11 Rev. April 2009			
Agency: Office of Cultural Affairs			Review Date: May 26, 2009
Item #	Section/Page	Topic	Comment
1.	Section 11	Sites on- or eligible for listing -on either the National Register of Historic Places and/or the State Register of Cultural Properties	According to 19.10.6.602 NMAC, a sampling and analysis plan shall include a list and accompanying map indicating all sites on or eligible for listing on either the National Register of Historic Places and/or the State Register of Cultural Properties and known cemeteries and human burials within the proposed permit area, along with a description of effects the proposed mining operations may have on these sites and any proposed mitigation measures. Although such a list was not provided, to satisfy this requirement, two cultural resource survey reports were submitted: one for the Cibola National Forest Land in Township 13 North, Range 8 West, Sections 9 and 10; and one for the State Trust land in Township 13 North, Range 8 West, Section 16. These surveys were conducted in 2006 although this office just received the reports as part of the sampling and analysis plan. In addition, Section II, Historic Places and Cultural Properties were submitted as part of the sampling and analysis plan.
	RHR Response		The Baseline Date Report will include this information. In addition, a cultural resource survey report will be submitted for the portion of Section 11 where an existing U.S. forest road will be improved to provide access to Section 10 of the Permit Area.
2.	Section 11	Disparity between number of recorded arch sites survey and those listed in reported.	Section 11 does not indicate whether there are cultural properties listed on or eligible for listing on either the National Register of Historic Places and/or the State Registers of Cultural Properties. However, 148 archaeological sites were recorded with the permit area during the cultural resource surveys. Please note that this number was generated from a review of the reports, the section 11 sampling and analysis plan has a slightly different total. The cultural resource survey reports recommend that 74 archaeological sites are eligible for listing to the National Register and 62 sites are of undetermined eligibility for listing. The remainder of the

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 11
Rev. April 2009

Agency: Office of Cultural Affairs			Review Date: May 26, 2009
Item #	Section/Page	Topic	Comment
			sites is recommended as not eligible for listing.
	RHR Response		The Baseline Data Report will provide a list sites recommended for listing for on the National Register of Historic Places and any discrepancies between the number of recorded sites identified by the commenter will be corrected.
3.	Section 11	Mount Taylor TCP encompasses the a portion of the permit area	In addition to the above archaeological sites, the Mount Taylor Traditional Cultural Property (TCP) encompasses the portion of the permit area that includes the Cibola National Forest land. The Mount Taylor TCP was added to the State Register of Cultural Properties on June 14,2008 on a temporary basis and was determined to be eligible for listing to the National Register of Historic Places on March 14,2008. On June 5, 2009, a decision will be made on whether the Mount Taylor TCP will 'be listed on the State Register on a permanent basis. The portion of the permit area that lies on State Trust land in Township 13 North, Range 8 West, Section 16 is located just outside the boundaries of the TCP.
	RHR Response		As noted by the commenter, at the time of submittal of the SAP the Mt. Taylor Designation was temporary. Since that time the designation has been made final. RHR will address this in the Baseline Data Report.
4.	Section 11	No discussion of proposed mitigation measures.	Section 11 also did not include a discussion of the potential effects or any proposed mitigation measures; however, Strathmore's April 13, 2009 letter responding to MMD comments on an earlier draft of the sampling and analysis plan states that the mitigation measures for any archaeological sites either eligible for listing or of undetermined eligibility for listing on either the National Register of Historic Places or State Register of Cultural Properties is avoidance. The Historic Preservation Division (HPD) concurs that avoidance is the best option at this time for activities that will be conducted as part of the sampling and analysis plan. However, it is not clear how Strathmore will ensure that archaeological sites will be avoided. Some of the quality-related work activities in the Field Quality Assurance Plan (FQAP) will include ground

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 11
Rev. April 2009

Agency: Office of Cultural Affairs			Review Date: May 26, 2009
Item #	Section/Page	Topic	Comment
			disturbance and thus there needs to be a plan in place to ensure avoidance and protection of all of the archaeological sites regardless of whether they are eligible or not. While maps are provided showing the location of each activity proposed under the sampling and analysis plan, to ensure avoidance and protection of sites it would be best to have a single map that shows the locations of archaeological sites in relation to each proposed activity.
	RHR Response		RHR will address the potential effects of its proposed actions on archaeological resources and the mitigation measures to be implemented in the Baseline Data Report, including a new Confidential Package that will be submitted with the Mine Permit Application.
5.	Section 11	Revise Section 11 that will accurately summarize # of arch sites and relation to TCP.	HPD would like to see a revised Section 11, one that accurately summarizes the number of archaeological sites that were recorded during the cultural resources surveys, identifies the presence of the Mt. Taylor TCP, provides a map showing the location of archaeological sites in relation to the proposed activities that will be carried out under the sampling and analysis plan, and provides a plan for avoidance of all archaeological sites. As you know, the map showing the locations of archaeological sites will have to be made confidential, and should only be provided to this office for review. Upon receipt of this revised plan we can review the information and determine if the proposed sampling and analysis plan will have an effect on cultural resources.
	RHR Response		RHR will provide the requested information in the Baseline Data Report and new Confidential Package that it will submit with the Mine Permit Application.
6.	Section 11	Review needed by Cibola National Forest and State Land office.	Lastly, the Cibola National Forest and the State Land Office must be given the opportunity to review and consult on the sampling and analysis plan. These agencies must also review the cultural resource survey reports and provide their determinations of eligibility for our concurrence. They may or may not agree with the archaeological consultant's determinations. In addition to providing determinations of eligibility for each archaeological site, the Cibola

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 11 Rev. April 2009			
Agency: Office of Cultural Affairs			Review Date: May 26, 2009
Item #	Section/Page	Topic	Comment
			National Forest must consider the effects on cultural resources under their jurisdiction pursuant to Section 106 of the National Historic Preservation Act.
	RHR Response		RHR recognizes the need for the State Land Office and the Cibola National Forest to review and consult on RHR proposed activities. RHR will submit a complete application, including the SAP, Baseline Data Report, Mine Operations Plan, and Reclamation Plan to the state and federal authorities for a comprehensive review.

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 11 Rev. April 2009			
Agency: MMD			Review Date – May 20, 2009
Item #	Section/Page	Topic	Comment
1.	Section 11.1.1	Section 9-10	“The permit area was previously surveyed as part of a larger survey (Koczan and Doleman 1976)” – This is irrelevant to the SAP; the information goes in the actual reports for Sections 9-10 - delete this sentence (1 st paragraph)
	RHR Response		RHR disagrees that the information provided is irrelevant to the SAP. As with all other sections of the SAP, RHR’s proposed baseline data gathering activities include review and use of historic data available for the site to complement new data to be generated.
2.	Section 11.1.1	Section 9-10	“No cemeteries or human burials were found during the survey.” – This is irrelevant to the SAP - delete this sentence (beginning of 2 nd paragraph)
	RHR Response		RHR disagrees with that information is irrelevant. NMAC §19.10.6.602D.(13)(i) specifically requires that “known cemeteries and human burials within the proposed permit area” be identified.
3.	Section 11.1.1	Section 9-10	“The report recommended that the “eligible” and “undetermined” sites be

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 11 Rev. April 2009			
Agency: MMD		Review Date – May 20, 2009	
Item #	Section/Page	Topic	Comment
			avoided while conducting <i>site</i> activities.” – replace the word “ <i>site</i> ” with “ <u>ground-disturbing</u> ”
	RHR Response		Section 11.1.1 of the SAP has been revised to address commenter’s concerns.
4.			No comment under this row
5.	Section 11.1.2	Sections 16	“The field survey conducted on Section 16 identified <u>54</u> archaeological sites; 24 sites <u>are</u> recommended for nomination to the National Register of Historic Places.” (make underlined additions)
	RHR Response		Section 11.1.2 of the SAP has been revised to address commenter’s concerns.
6.	Section 11.1.2	Section 16	“If avoidance is not feasible, then testing and <i>full recording</i> of the sites should be performed.” Replace “ <i>full recording</i> ” with “ <u>possibly data recovery</u> ”
	RHR Response		Section 11.1.2 of the SAP has been revised to address commenter’s concerns.
7.	Section 11.3	List of Date to be Collected	“The entire permit area (1920 acres) will be surveyed for the presence of archaeological and cultural resources <i>of significance</i> ” – Delete <i>of significance</i> ; all sites are recorded; significance is determined later
	RHR Response		Section 11.3 of the SAP has been revised to address commenter’s concerns.
8.	Section 11.4	Methods of Collection	“ <i>The file searches were conducted using the legal descriptions of the project area and a 1.6-km radius surrounds the project area. The search areas included Sections 8, 9, 10, 15, 16, 17, 20, 21, and 22 in T13N, R8W. The results of these literature searches are summarized in the cultural resources survey reports for Sections 9 and 10, and Section 16 (LMASI 2006a and 2006b).</i> ” – Delete this whole paragraph – it’s enough to know that a records review was conducted.
	RHR Response		Section 11.4 of the SAP has been revised to address commenter’s concerns.
9.	Section 11.4	Methods of Collection	Following the literature searches, <u>LMASI</u> field personnel conducted <i>a walk-over an archaeological</i> survey of the Roca Honda permit area, evaluating existing archaeological sites identified from the literature searches and identifying and evaluating new sites not previously recorded. <u>Transects were spaced m apart (we need to know transect spacing. 15 m?)</u> Delete <i>a walk-over</i>

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 11 Rev. April 2009			
Agency: MMD		Review Date – May 20, 2009	
Item #	Section/Page	Topic	Comment
	RHR Response		Section 11.4 of the SAP has been revised to address commenter's concerns.
10.	Section 11.4	Methods of Collection	<p><i>"A site can be variable in size and content and range from a cluster of several objects or materials to large areas including structures with associated objects and features. In lieu of State of New Mexico guidelines regarding site definition standards, LMASI used the USFS Region 3 guidelines (NMCRIIS No. 101072) to identify cultural sites. Under these guidelines, sites must be greater than fifty years old and have:</i></p> <ol style="list-style-type: none"> <i>1. One or more features</i> <i>2. One formal tool, if associated with other cultural material, or more than one formal tool</i> <i>3. An occurrence of cultural material that contains:</i> <i>Three or more types of artifacts or material</i> <i>Two types of artifacts in a density of at least 10 items per 100 square miles</i> <i>Sampling and Analysis Plan Section 11.0- Historic Places and Cultural Properties Roca Honda Mine April 2009 Page 11-3</i> <p><i>A single type of artifact in a density of at least 25 items per 100 square miles</i></p> <p><i>Isolated occurrences, on the other hand, are cultural remains that do not qualify as sites and generally consist of single artifacts or artifact scatters that are of extremely low density and are widely dispersed, or represent a single activity. Redeposited material that lacks significant locational context may also be determined to be an isolated occurrence."</i> – Delete all of this – not necessary in text</p>
	RHR Response		Section 11.4 of the SAP has been revised to delete the passage per commenter's concerns.

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 11 Rev. April 2009			
Agency: MMD		Review Date – May 20, 2009	
Item #	Section/Page	Topic	Comment
11.	Section 11.4	Methods of Collection	Last paragraph: “Sites were plotted on USGS quadrangle maps,” – <u>was this really done in the field? Usually GPS data is downloaded and plotted on a map back in the office</u>
	RHR Response		This entry in Section 11.4 of the SAP has been revised in clarify the method of collection.
12.	Section 11.4	Methods of Collection	In the text, “When isolated occurrences were encountered, they were recorded in the field and <i>then</i> <u>their locations</u> plotted on the USGS quadrangle map”. Delete <i>then</i>
	RHR Response		This entry in Section 11.4 of the SAP has been revised in clarify the method of collection.
13.	Section 11.5	Parameters	Add at beginning: <u>all of Sections 10, 11, and 16 were surveyed.</u>
	RHR Response		Section 11.5 of the SAP has been revised to address commenter’s concerns.
14.	Section 11.5	Parameters	“The field surveys <i>identified</i> <u>documented</u> 94 new archaeological sites and 160 isolated occurrences in Sections 9, 10, and <u>50 54</u> new archaeological site and 72 isolated occurrences in Section 16.” Delete italicized and add underlined.
	RHR Response		Section 11.5 of the SAP has been revised to address commenter’s concerns.
15.	Section 11.6	Maps....	A map needs to be provided showing the mining footprint overlaid on a map of the archaeological sites. The map must include the “LA #” for each site.
	RHR Response		RHR will provide this information in the New Confidential Package that it will submit with the Mine Permit Application.
16.	Section 11.7	Sampling Frequency	“ <i>Cultural resources are located and identified during walkover surveys in the field. These surveys have been completed for purposes of a pre-mining assessment.</i> ” Delete, and replace with <u>One hundred percent of the project area was surveyed.</u>
	RHR Response		Section 11.7 of the SAP was revised to address commenter’s concerns.
17.	Section 11.8	Lab and Field QA	“ <i>The Contractor retained to perform the work is certified by the State of New Mexico to perform the historic and cultural surveys. These experienced professionals followed the accepted field procedures to conduct the surveys,</i>

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 11 Rev. April 2009			
Agency: MMD		Review Date – May 20, 2009	
Item #	Section/Page	Topic	Comment
			<i>mark and map the findings, and report the results.” Delete, and replace with <u>The archaeologists are permitted by the State of NM and the USFS (Cibola).</u></i>
	RHR Response		Section 11.7 of the SAP was revised to address commenter’s concerns.
18.	Section 11.9	Brief Discussion Supporting Proposal	“The objective of the cultural resources surveys are to locate all <u>archaeological</u> sites <i>on or eligible for listing on either the NRHP and /or the State Register of Cultural Properties and known cemeteries and human burials</i> within the proposed permit area” insert archaeological
	RHR Response		Section 11.7 of the SAP was revised to address commenter’s concerns.

Section 12

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 12 Rev. April 2009			
Agency: MMD		Review Date: July 10, 2009	
	Section/Page	Topic	Comment
1.	General	Exploratory boreholes	An account of when exploration boreholes were drilled needs to be discussed in this section. This needs to include specifics, including, if possible the company that drilled these holes, not a general statement that boreholes were drilled between a certain time-frame.
	RHR Response		RHR has revised Section 13, Prior Mining Operations, of the SAP to provide additional detail as requested by the Commenter.

Section 13 Prior Mining Operations

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 13 Rev. April 2009			
Agency: MMD			Review Date
Item #	Section/Page (or general)	Topic	Comment
1.	Figure 13-1	Contour elevations	Please put elevations on the contour lines.
	RHR Response		Figure 13-1 has been revised to add elevations on contour lines per commenter's request
2.	Figure 13-1	Observation well labels	Please label observation wells on the map and their respective elevations.
	RHR Response		Figure 13-1 has been revised to label observation well and respective elevations per commenter's request.
3.	Section 13.1	Exploratory boreholes	There needs to be a survey planned that; 1) identifies all exploratory boreholes and provides their UTM NAD-83 GPS/GIS coordinates (these should be included in shape files provided in the report) in the proposed mining sections, 2) depth of these boreholes, 3) diameter of the exploratory boreholes, and 4) type of plugging.
	RHR Response		RHR will provide information regarding location, approximate depth in the Baseline Data Report. RHR has no information regarding the diameter or manner in which they were plugged.
4.	Section 13.2	Mt. Taylor dewatering	It is acknowledged that Mt. Taylor mine has been in operation from the mid-1970s to early 1980s. The mine had extensive dewatering and discharge to San Mateo creek. As a surrogate to proposed RHR mining activities, the SAP should discuss the process by which RHR will acquire and analyze data related to dewatering activities and aquifer recovery at the Mt. Taylor Mine. The SAP should also discuss the process by which RHR will acquire and analyze data that would provide information related to the impacts of Mt. Taylor discharge water to surface stream water quality, and precipitates in the alluvium.

Review of Strathmore SAP Document for the Roca Honda Uranium Mine Site, Section 13
Rev. April 2009

Agency: MMD			Review Date
	RHR Response		RHR has developed its SAP to allow it to prepare a Baseline Data Report in accordance with the New Mexico Mining Act for its proposed activities. RHR has no knowledge of nor has access to company-private data that may be in the possession of the company that currently owns the Mt. Taylor facility, nor is it the responsibility of RHR to evaluate impacts that may have occurred as a result of the Mt. Taylor mine dewatering and/or water discharge activities. The studies that RHR proposes in its SAP will provide data to characterize pre-mining conditions that are present prior to ITS proposed activities, not to evaluate others mining activities.
5	Section 13.2	Lee Ranch Mine shaft	The SAP should indicate that details of the Lee Ranch mine shaft which is located approximately 0.5 miles west of Section 16 will be addressed in the permit application. The following questions need to be addressed; 1) How deep is the shaft? 2) Is it open? 3) How is the shaft currently being used? 4) Does the shaft serve as a ground water sink? 5) Has the shaft construction affected water in the Dakota, Gallup, or Westwater Sandstones within the vicinity of the proposed mine operations (Sections 9, 10, and 16)? 6) Is the shaft currently being used as a water well? 7) Is there going to be monitoring of this 'shaft/well'
	RHR Response		RHR has only limited information on the construction and/or condition of the "mine shaft" located on Section 17. The SAP has been revised to reflect this information only to the extent that it is known.