

**Peer Reviewer (Dr. Arun Kumar Panda, Retd. GM Exploration, CMPDIL) Comments
and MECL Response On “Geological Report on Reconnaissance Survey (G-4 Stage) For
Glauconite in Ambara West Block
(Area-143.15 Sq Km), Tehsil- Lakhpat and Nakhatarana, District- Kachchh, Gujarat”**

Sl. No.	Peer Review Comments	MECL Response
1	Mention owner’s name Government of Gujarat on the Cover Page, as given at 3.1.0	Geological report has been prepared as per the MEMC rule 2015 (Reporting of mineral resources- PART IVA format)
2	Maintain unique Title of the report / Block name, terminology in Text, Annexures and Plates.	Title of the block has been uniformed
3	Maintain Unique symbology and Colour combination for same Physical features, Formations, Ore body etc..	Maintained
4	All Photographs should be geodetic photograph and maintain the photo number as per chapter no.	Coordinates and village name provided wherever applicable
5	In the content give details of Tables, Text Figures and Photos.	Incorporated.
6	A plate showing boreholes location, pit and sample location with physical feature and villages may be included in the report	Provided in Plate-I & III.
7	Adjacent defined block name surrounding to the block should be mentioned. Mudhan- Khatiya block is adjacent to northern block boundary.	Added in para 1.1.9
8	Section lines are given in Plate-III have not been referred in the text. It seems lines were calculated for resource calculation. Hence, section line wise resources may be calculated.	Resource estimation has been carried out solely by the Polygonal Method; accordingly, Plate-III has been corrected and updated.
9	All sub-paras are numbered; it is better not to number all. See Chapter- 7 heading 7.0.0 “Geology of the area”, it could have been 7.0, and 7.0.1” Regional geology of the area” and so on. It is requested to see the style of the text, title Header, sub- header, para and sub-para numbering and font style and size of font for entire report.	Numbering and formatting have been corrected, and the corresponding revisions have been incorporated in the contents list.
10	It has been observed that page numbers either missing or repeated. This may be attended with due diligence for proper numbering of pages of text, Annexures, figures, photos and plates.	Updated.
11	Run Spell check and grammar check for entire report and correction shall be made accordingly	Spell check and grammar check done.
12	At point 1.1.8 it is mentioned that geological report is being submitted in the month of March’26, the same may be changed to April’26.	Updated.

13	At point 1.1.12 it is mentioned that cut-off grade of >3% K ₂ O and at point 1.1.13 and avg. grade considered is 4.3% for resource calculation. a. From chemical analysis result of BH 6 & 7 is more than 3% of K ₂ O. Reason for leaving these two boreholes may be explained.	Explained in Para- 1.1.14 and 19.1.4
14	At point 1.1.13 Write the total area of Zone of Glauconite Mineralisation and reason for leaving the balance area.	Explained in Para- 7.9.3
15	In Chapter- 1, deliberate a para on field investigation, strike & dip and also on geological formation observations made during field visit. Based on field investigation and geochemical analysis, a note on mineralisation of Glauconite and other important minerals mineralised in the block may be incorporated, in-term of percent with respect to area of the block.	Mentioned in Para 1.1.11 and 1.1.12. The observation based on geochemical data is provided in para 1.1.10.
16	In Chapter- 4, elaborate on block boundary delineation and mention the source of the cardinal points of the block in table 4.1.	Incorporated in Para 4.1.3 and 4.1.4
17	Mention arrows of the exact block location inside the KACHCHH district, otherwise it implicates for entire block.	Arrow given at the exact block location.
18	Text figure 1.1 may be corrected as 4.2 and also label cardinal point (ABCDE), and also Write Lat. & Long of the text figure.	Updated as Text figure 4.2.
19	At 4.2.1 elaborate land uses and mark villages.	Incorporated in Para 4.2.1 & 4.2.2
20	Text figure 5.1 may be given in a plate with adjacent block boundary name.	Text Figure 5.1 illustrates the status of nearby ESZ and National Park in the vicinity of the Ambara West Block (Source: PM GatiShakti Portal), as per para 5.6.0, and is enclosed accordingly as a text figure.
21	See the numbering 5.8.1, 5.8.1, 5.8.3, 5.8.3 are repetitive and missing 5.8.2	Corrected.
22	Annual rainfall data for last 10 years may be collected from nearest meteorological station and include in the text at 5.8.3	Rainfall Data is submitted as per MEMC rule.
23	Content of Chapter-6 can be explained in Chapter-5. No need of separate chapter.	Geological report has been prepared as per the MEMC rule 2015 (Reporting of mineral resources- PART IVA format)
24	In Chapter- 7, at Para 7.1.4 and 7.4.6 it is mentioned that "GSI data is presented in table below" instead write that GSI data is presented at table No.7.1 and 7.2 respectively.	Corrected.

25	Text figure 7.1 is not referred in the chapter-7 of the text.	Referred in Para- 7.1.3.
26	In text define the difference between Basalt, Basalt(unclassified), and olivine Basalt and make different colour for different rock type.	Basalt, including olivine basalt, is not present within the Ambara West Block and is represented only outside the block boundary in the regional geological map. As no basaltic lithology was encountered during field investigation, its detailed description has not been included in the report. Represented by different shades of green colour.
27	Picture given at 7.3.3 may be included as text figure.	Incorporated.
28	Photo 7.1 and 7.3 are near Paneli village, which is outside block boundary (Plate-I). Mention that photos are within or outside block boundary and include Geodetic photos only. Mention more villages in Plate-I.	A major portion of Paneli village falls within the Ambara West Block. All photographs in the Geological Report were taken within the block area, with coordinates and village names provided wherever applicable. Villages within the block are already shown in Plate-I.
29	Before 7.5.0: Detail description on field investigation may be made with travers line/path with photographs, under Field Study in the block heading.	Complied in Para- 7.4.8
30	7.5.0 DESCRIPTION OF ROCK TYPES PRESENT IN THE BLOCK: and 7.5.1 for LITHOLOGIES BELONGING TO BHUJ FORMATION and 7.5.2 LITHOLOGIES BELONGING TO BHUJ FORMATION and subsequent subheadings/paras. More geodetic photographs shall be included for rock types present in the block under report. Photographs given in this chapter should be referred properly in the text.	Geodetic photographs along with the location name has been provided in the respective sub-para of chapter-7 and the same is referred in the text.
31	Evidence against 7.5.02 may be included in the report under report.	Provided in Photographs-7.9 to 7.15. which shows the lithologies belonging to Katrol formation.
32	7.5.0.4 finding in the block geology is different from regional geology (plate-II) may be confirmed with geo chemical data along with field data. Elaboration on evidence of findings with geodetic photos may be included.	Large-scale mapping by GSI at 1:50,000 scale is presented as the regional geological map with geochemical data. MECL carried out detailed

		mapping at 1:12,500 scale, refining lithological contacts; the updated interpreted geological map is shown in Text Fig. 7.3 and Plate-III. Geodetic photographs along with the location name has been provided in the respective sub-para of chapter-7 and the same is referred in the text.
33	7.5.0.9 – Elaboration on evidence of findings with geodetic photos may be included.	Geodetic photographs along with the location name has been provided in the respective sub-para of chapter-7 and the same is referred in the text.
34	Text Figure- 7.3 is the copy of plate 03, shall be edited and delete plate details and give details of figure. Regenerate the text figure without any section line.	Text Figure- 7.3 is regenerated without any section line.
35	At 7.6.14 Interpretation of Bivariate Plots have been done. It is not clear from the description that the data considered for bivariate are discrete in nature or continuous in nature. What is distribution pattern of the data (normal, positive bell shaped or negative bell-shaped curve)? As in general geological data set never be distributed normal with same mean and mode with proper normal curve distribution. Apart from mentioning correlation coefficient and maturity of chemical components, also mention the skewness and kurtosis of the data set and find out the factor which is responsible for mineralisation.	Incorporated and described in Para- 7.7.6.
36	Pmg 1,2,3,4,5,6 may be mentioned in the content.	Incorporated.
37	After detail field investigation and geochemical study of the block, it appears that there is a dis-continuity in Glauconite before eastern boundary of the block and may not be potential in the adjacent block. Eastern boundary is enriched with more of feldspathic sand stone. It differs from regional geology of the block. There is much more deviation from regional geology (PLATE-II) and Geology of the block (Plate- III). It shall be described in detail.	Responded in point no 32.
38	At 7.8.3- Mention percentage of total K ₂ O mineralisation area vis-à-vis total area. Resource is calculated for area of 18.44 sq.km as against total area of 143.15 sq.km which is 12.88%. Reason may be given for leaving 77.12% of the area.	Explained in Para- 7.9.0
39	NGCM- Geochemical anomaly map of K ₂ O data plotted and interpreted for the block under report in Chapter-8, the same may also be tabulated in the chapter.	NGCM- Geochemical anomaly of K ₂ O data provided in Chapter-8.
40	Geochemical anomaly map of K ₂ O data of present Pits, bed	Geochemical anomaly

	rocks and boreholes shall be prepared and report with findings.	map showing K ₂ O distribution incorporated as Text Figure.10.1 and findings described in para-10.2.14.
41	Details of Exploratory Work carried out by MECL in the Ambara west Block, Kachchh District, Gujarat given at table No 10.1. Deviation from approved quantum may be mentioned in the remark column of the table.	The quantum of work proposed vis-à-vis quantum of work carried out is furnished in Table no 10.1.
42	Include a map showing Field traverse line and prominent features and villages etc.	Data shown in Plate-I and Plate-III.
43	Structural observations (strike and dip) are quite less as compared to area of the block (143.15 sq.km.) (ref. PLATE-III). It should have been much more than this.	The structural observation has been recorded based on the availability of the surface exposures, the weathering profile and the soil cover of the area.
44	The resource estimation for K ₂ O-rich glauconite mineralisation in the Ambara West Block has been carried out considering the bedded nature of the deposit and the level of geological confidence achieved through Reconnaissance Stage (G-4) exploration and the resources are classified as Reconnaissance Mineral Resources (UNFC 334), estimated at 212.11 million tonnes with an average grade of 4.30 % K ₂ O at 3% K ₂ O cut-off grade, for area of 18.44sq.km. The resources calculated by drawings polygons around boreholes only, but from the field data and geochemical analysis of surface samples and pits, it is evident that the area left out is also enriched with glauconite also. As this is for Reconnaissance Stage (G-4) exploration, resource may be calculated for left out area with different cut-off grades. Resource may be calculated as per the section line given in Plate-III.	The geochemical analysis of surface samples and pit samples has been considered for the planning of boreholes and incorporated in the resource estimation. Resource estimation has been done as per the MEMC rule 2015.
45	Maintain unique Title / Block name and terminology for all the Annexures.	Unique Title Maintained.
46	ANNEXURE IA- Include source of the cardinal point co-ordinates.	Responded in point no 16
47	ANNEXURE IB – In the header of the table mention title of each column or mention etc. after total depth. Angle of each borehole should be -90.0 as each boreholes drilled vertically, from surface to below the surface. a. ANNEXURE II – Correct the header to ANNEXURE II, instead of ANNEXURE IIIA. Data provided under the column with heading “Thickness REC.” is same as true thickness/extrapolated thickness misleads with recovered thickness. May like to delete the column. Complete the page no. for all pages of annexure. Also see Annexure- III, IIIA	Updated

48	ANNEXURE IIA – correct to ANNEXURE- IVB	Corrected
49	Some of the Annexure’s headings are written in hand, may be typed properly for final report.	Updated
50	For all the plates, maintain Unique symbology and Colour Index for same Physical features, Formations, Ore body etc..	Maintained
51	All plates are not in one format, maintain same format (font style and font size, placement of plate detail) for all plates.	Updated
52	Authenticate all plates by putting signature.	It is a standard format for map details, typically placed at the bottom-right corner of the plate. Therefore, no changes have been made to the plate details, as suggested.
53	Include Plate details at the bottom left corner of the plate and make a unique format for all the plate for example:	
54	Customer/Owner:	
55	Title of the Report:	
56	Subject:	
57	Prepared by: Signature:	
58	Checked by: Signature:	
59	Approved by: Signature:	
60	Drawing No. Plate No.-I/II/III/IV/V	Responded in point no 26.
61	In Plate-II, Basalt, Basalt Unclassified and Olivine Basalt are having same colour index, difficult to differentiate. It should be only Basalt and use only one colour. Give Plate details as mentioned above.	
62	See sl.no. 4 of list of plates, RF is 1:4000 whereas, in the plate it is 1:10000, hence correct in the list of plate.	Corrected